Plan Overview

A Data Management Plan created using DMPonline

Title: Towards safe use of general controls in cars. A drive-along study to better understand internal HMI use in passenger cars.

Creator: Danël Auerbach

Project Administrator: Marjan Hagenzieker, Jan Anne Annema, Eleonora Papadimitriou

Affiliation: Delft University of Technology

Template: TU Delft Data Management Plan template (2021)

Project abstract:

This research will be looking into the use frequencies of different human-machine interface (HMI) tasks in passenger cars during real-world driving. To achieve this, the researcher will drive along with participants. These participants will be driving two trips on routes that they are familiar with. The route length will differ per participant. Each participant will drive one trip with their own car and one trip with an unfamiliar car to study the effect of car familiarity on the use frequencies. The unfamiliar car is arranged through RDW and the insurance will be covered through them. Participants will therefore not be exposed to any financial risk with this car. This research is performed in collaboration with RDW and TU Delft. From RDW, Ilse Harms is involved and from the TU Delft Eleonora Papadimitriou, Marjan Hagenzieker and Jan Anne Annema are involved. The participants will be recruited by asking friends and family members of the researcher as well as handing out flyers at RDW and through TU Delft connections. Participants will also be recruited through contacts of the researcher, Ilse Harms and the committee. The goal is to have approximately 30 participants. They are expected to drive two trips with two different vehicles on a familiar route whilst the researcher sits in the passenger seat to make notes.

The data that is used for this research will be anonymous and does not involve privacy-sensitive information. The participants will only be asked for basic information, such as their age, gender and how many years they have owned a driver's license. Other data that will be collected include some characteristics of the route that is driven and some characteristics of the car that is driven. The origin and destination of the route will not be documented. Furthermore, participants will have to state whether they agree or disagree with some statements. The collected data will be analysed using SPSS and a multiple linear regression will be performed to estimate relationships with the use-frequencies.

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Start date: 20-11-2023

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Towards safe use of general controls in cars. A drive-along study to better understand internal HMI use in passenger cars.

0. Administrative questions

1. Name of data management support staff consulted during the preparation of this plan.

My faculty data steward, Lora Armstrong, has reviewed this DMP on 31-10-2023.

2. Date of consultation with support staff.

2023-10-31

I. Data description and collection or re-use of existing data

3. Provide a general description of the type of data you will be working with, including any re-used data:

Type of data	File format(s)	How will data be collected (for re-used data: source and terms of use)?	Purpose of processing	Storage location	Who will have access to the data
Anonymised socio-demographic data such as age, gender, years in possession of driver's license, route familiarity and car familiarity	Word document and SPSS document	Questionnaire in person	Use as controlling variables and understand the impact of car familiarity on the use-frequencies	Hard drive on personal laptop and in RDW teams	The researcher and RDW staff
Driven route and car characteristics	Word document and SPSS document	Questionnaire in person	Use as controlling variables and understand the impact on the use-frequencies	Hard drive on personal laptop and in RDW teams	The researcher and RDW staff
Use-frequencies of HMI tasks	Word document and SPSS document	Written notes during trips	Use as main variable of interest and dependent variable	Hard drive on personal laptop and in RDW teams	The researcher and RDW staff
Informed consent	Paper	Questionnaire in person	To get consent	In a locked environment	The researcher and RDW staff
E-mail addresses, names, locations for meeting and the model of the car people drive	This will be stored in my e-mail inbox and will be deleted as soon as the trips are over	Through google calendar and e-mail	Only for practical purposes	In e-mail inbox until its gets deleted after the trips	Only the researcher

4. How much data storage will you require during the project lifetime?

- < 250 GB

II. Documentation and data quality

5. What documentation will accompany data?

- Methodology of data collection
- Data dictionary explaining the variables used

III. Storage and backup during research process

6. Where will the data (and code, if applicable) be stored and backed-up during the project lifetime?

- Another storage system - please explain below, including provided security measures

The data will be stored on my personal laptop and also in a teams environment where only selected RDW employees can access the data. The data will be stored on my personal laptop behind a password protected folder.

IV. Legal and ethical requirements, codes of conduct

7. Does your research involve human subjects or 3rd party datasets collected from human participants?

- Yes

8A. Will you work with personal data? (information about an identified or identifiable natural person)

If you are not sure which option to select, first ask your Faculty Data Steward for advice. You can also check with the privacy website . If you would like to contact the privacy team: privacy-tud@tudelft.nl, please bring your DMP.

- Yes

8B. Will you work with any other types of confidential or classified data or code as listed below? (tick all that apply)

If you are not sure which option to select, ask your Faculty Data Steward for advice.

- No, I will not work with any confidential or classified data/code

9. How will ownership of the data and intellectual property rights to the data be managed?

For projects involving commercially-sensitive research or research involving third parties, seek advice of your Faculty Contract Manager when answering this question. If this is not the case, you can use the example below.

The data will be owned by myself. However, the anonymised data and aggregated data will be shared with RDW and the TU Delft.

10. Which personal data will you process? Tick all that apply

- Gender, date of birth and/or age
- Other types of personal data - please explain below
- Names and addresses
- Telephone numbers
- Email addresses and/or other addresses for digital communication
- Data collected in Informed Consent form (names and email addresses)

Number of years with a driver's license, car familiarity, route familiarity. The origin and destination of the route will not be mentioned. The names, addresses, telephone numbers and e-mail addresses will only be used for reaching out to participants and for the researcher to know where to go. This data will not in any way be linked to the data that will be used for the research. It will not be possible to link data in the research to the personally identifiable information.

11. Please list the categories of data subjects

Everyone with a driver's licence in the Netherlands would be considered for being a participant

12. Will you be sharing personal data with individuals/organisations outside of the EEA (European Economic Area)?

- No

15. What is the legal ground for personal data processing?

- Informed consent

16. Please describe the informed consent procedure you will follow:

All study participants will be asked for their written consent for taking part in the study and for data processing before the start of the interview.

17. Where will you store the signed consent forms?

- Other - please explain below

The data will be stocked in a locked cabinet

18. Does the processing of the personal data result in a high risk to the data subjects?

If the processing of the personal data results in a high risk to the data subjects, it is required to perform a Data Protection Impact Assessment (DPIA). In order to determine if there is a high risk for the data subjects, please check if any of the options below that are applicable to the processing of the personal data during your research (check all that apply).
If two or more of the options listed below apply, you will have to complete the DPIA. Please get in touch with the privacy team: privacy-tud@tudelft.nl to receive support with DPIA.
If only one of the options listed below applies, your project might need a DPIA. Please get in touch with the privacy team: privacy-tud@tudelft.nl to get advice as to whether DPIA is necessary.
If you have any additional comments, please add them in the box below.

- Sensitive personal data

I will have home addresses, e-mail addresses and phone numbers. However, this data will not be linked with the observations and is only for administrative purposes and practical purposes. The data that will be used for the research is fully anonymised.

19. Did the privacy team advise you to perform a DPIA?

- No

"Thanks for reaching out to us. Based on the information provided, I do not expect a DPIA is necessary."

22. What will happen with personal research data after the end of the research project?

- Anonymised or aggregated data will be shared with others

- Personal research data will be destroyed after the end of the research project

V. Data sharing and long-term preservation

27. Apart from personal data mentioned in question 22, will any other data be publicly shared?

- All other non-personal data (and code) produced in the project

29. How will you share research data (and code), including the one mentioned in question 22?

- My data will be shared in a different way - please explain below

I will share the data through the teams environment from RDW. Only aggregated and anonymous data will be shared.

30. How much of your data will be shared in a research data repository?

- < 100 GB

31. When will the data (or code) be shared?

- As soon as corresponding results (papers, theses, reports) are published

32. Under what licence will be the data/code released?

- Other - Please explain

This is for a master thesis

VI. Data management responsibilities and resources

33. Is TU Delft the lead institution for this project?

- No - please provide details of the lead institution below and TU Delft's role in the project

RDW is the lead institution which came up with the project and as part of my master's thesis RDW and the TU Delft are collaborating on the project. The TU Delft gives advice.

34. If you leave TU Delft (or are unavailable), who is going to be responsible for the data resulting from this project?

RDW and TU Delft. In particular Marjan Hagenzieker and Ilse Harms of which their e-mail addresses are respectively m.p.hagenzieker@tudelft.nl and iharms@rdw.nl. The data will be anonymous except for the informed consent.

35. What resources (for example financial and time) will be dedicated to data management and ensuring that data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

I will be doing that myself. There will be no costs for data sharing.

Planned Research Outputs

Book chapter - "Towards safe use of general controls in cars. A drive-along study to better understand internal HMI use in passenger cars."

This research will be looking into the use frequencies of different human-machine interface (HMI) tasks in passenger cars during real-world driving. To achieve this, the researcher will drive along with participants. These participants will be driving two trips on routes that they are familiar with. The route length will differ per participant. Each participant will drive one trip with their own car and one trip with an unfamiliar car to study the effect of car familiarity on the use frequencies. This research is performed in collaboration with RDW and TU Delft. From RDW, Ilse Harms is involved and from the TU Delft Eleonora Papadimitriou, Marjan Hagenzieker and Jan Anne Annema are involved. The participants will be recruited by asking friends and family members of the researcher as well as placing brochures on cars in the parking lots of RDW and TU Delft. Also, some participants will be recruited by sending e-mails to contacts of the researcher, Ilse Harms and the committee. The goal is to have approximately 30 participants. They are expected to drive two trips with two different vehicles on a familiar route whilst the researcher sits in the passenger seat.

Planned research output details

Title	DOI	Type	Release date	Access level	Repository(ies)	File size	License	Metadata standard(s)	May contain sensitive data?	May contain PII?
Towards safe use of general controls in cars. A dr ...		Book chapter	Unspecified	Open	None specified		None specified	None specified	No	No