Emotions in Reading: Multidisciplinary approach to readers’ reactions to news articles (EmoNews)

A Data Management Plan created using DMPTuuli

Creator: Johanna Kaakinen

Affiliation: University of Turku

Funder: Academy of Finland

Template: National Finnish DMP (Academy of Finland's Autumn 2018 call)

Project abstract:

Public media has a heavy responsibility in shaping the public opinion and in distributing information. This is especially important in today’s world, where rumors and misinformation spread fast and wide in social media. Recent research suggests that this type of communication relies on anecdotal evidence and storytelling, and it purposefully appeals to the emotions of the reader. Given the success of transmitting misinformation, a crucial question is whether similar strategies could be used to effectively communicate correct information. In general, very little is known about how emotions influence text comprehension, as current theories only acknowledge the role of purely cognitive factors. This project aims to fill up this gap by examining the potential and limits of narrative to evoke emotional responses in readers and to improve comprehension of text. The project is multidiciplinary in nature and comprises two work packages. WP1 investigates whether narrative constellations in news articles induce emotional responses and result in increased reader engagement, as indexed by article shares in social media. Reader feedback to news articles published at YLE website and the content of articles will be analyzed with machine learning methods (Study 1) and critical narrative analysis (Study 2). WP2 consists of two studies and zooms in on the cognitive and emotional processes as they occur during the course of reading by combining eye movement recordings and different psychophysiological measures (e.g., electrodermal activity) with subjective emotion ratings. Study 3 will examine the interplay between emotional and comprehension processes during reading of news articles analyzed in WP1. Study 4a will test the hypothesis that anecdotal evidence increases reader emotion and comprehension, and Study 4b investigates whether the seductive power of anecdotes can be diminished by instructing readers to adopt a critical stance to text information. The results will provide novel information on the role of emotions in how readers interact with and react to informational texts, which will help in developing theories of text comprehension. By crisscrossing the traditional disciplinary boundaries the project will help in developing and utilizing novel research methodologies. The expected results have potential for societal impact, as the results can be used to design efficient public communication, which is crucial in battling the flux of misinformation in today’s world.

ID: 9192

Last modified: 28-04-2021

Copyright information:

Emotions in Reading: Multidisciplinary approach to readers’ reactions to news articles (EmoNews)

1. General description of data

Date of the plan.

28.9.2018

1.1 What kinds of data is your research based on? What data will be collected, produced or reused? What file formats will the data be in?

The work packages proposed in the research plan use different types of data.

In **WP1**, data used in Study 1 consists of reader feedback sent to the YLE editorial office during a 1-year period. The feedback data is a text file in .csv format. Access to these data have been granted by YLE, and the PI has signed a confidentiality agreement in accordance with YLE ethical standards. In addition to the feedback data, WP1 will utilize statistics of the social media shares for news articles, which is publicly available at yle.fi website. These data will be scraped from the website and stored in a text file (.csv). In Study 2 the data comprises the article texts published and publicly available at the yle.fi website and the statistics of social media shares of these articles. The article texts will be stored as a textfile (.txt), the statistics for these articles in a table text format (.csv).

In **WP2**, different types of behavioral data will be collected. The data consists of eye movement recordings, psychophysiological measurements (heart rate, heart rate variability, electrodermal activity, respiratory changes), questionnaire data, and recall data. Preprocessing of the raw data will follow the established standards for each measure, and the data that will subjected to statistical analysis will be stored in a table text format (.txt or .csv).

1.2 How will the consistency and quality of data be controlled?

The textual and statistics data used in WP1 and WP2 will not be processed in ways that would inflluence the quality of the data. The qualitative analysis of the article texts proposed for Study 2 will be performed by two initially independent readers, who will then check their interpretations for inconsistencies, and discuss until reaching consensus about the analysis.

The behavioral data collected in WP2 will be processed according to the standards established for each measurement. The eye tracker (SR Research Eyelink 1000+) and psychophysiological measurement systems (Biopac) will be calibrated following the best practices to obtain good-quality data. The raw data will be preprocessed before the analyses using the software tools (DataViewer for SR-Reseach Eyelink eyetracker, Acknowledge for Biopac) provided by the hardware providers. Preprocessed data will be saved as separate files and the original raw data will be stored unchanged.

2. Ethical and legal compliance

2.1 What ethical issues are related to your data management, for example, in handling sensitive data, protecting the identity of participants, or gaining consent for data sharing?

Ethical approval for all studies will be seeked from the University of Turku ethical committee.

All data will be anonymized before the analyses. In WP1, all information that may reveal the person's identity in the feedback data will be deleted. As agreed in the contract signed by the PI and YLE, original feedback texts will not be published. For publications, examples will be constructed on the basis of actual feedback.

The behavioral data collected in WP2 will be stored without identity information. The participants will be asked to sign an informed consent before participation, and if the participant wants to withdraw from the study during or after testing, the participant's data will be permanently deleted.

2.2 How will data ownership, copyright and Intellectual Property Right (IPR) issues be managed? Are there any copyrights, licenses or other restrictions which prevent you from using or sharing the data?

The feedback data used in WP1 is owned by YLE (YLE has IPR) and will not be shared or published in raw format, as agreed in the contract signed by PI and YLE. There are no other restrictions for using or sharing the data, and all other data and analysis code will be made publicly available after publication of research report / article via OSF. The only exception from this is when ethical approval/informed consent limits releasing data.

3. Documentation and metadata

3.1 How will you document your data in order to make it findable, accessible, interoperable and re-usable for you and others? What kind of metadata standards, README files or other documentation will you use to help others to understand and use your data?

As the original data of WP1 can not be publicly shared, metadata will be made available via OSF. To ensure data transparency, metadata will follow the DDI guidelines. Materials and anonymized data for WP2, as well as reproducible analysis scripts (R Markdown format) will be made available as supplementary material via OSF.

4. Storage and backup during the research project

4.1 Where will your data be stored, and how will it be backed up?

All data will be stored on password-protected computers and backed up in the University of Turku cloud file service Seafile, where it is only acecssible to authorized users.

4.2 Who will be responsible for controlling access to your data, and how will secured access be controlled?

The PI will have access to all data, and she is responsible for sharing it with the other members of the research team. The data will be stored on password-protected personal computers and in a data cloud service for which a personal user account at the University of Turku accounting services is required. The PI can define users who have access to the shared data folders in the cloud service.

5. Opening, publishing and archiving the data after the research project

5.1 What part of the data can be made openly available or published? Where and when will the data, or its metadata, be made available?

The data for WP1 will not be shared or published openly, as agreed by PI and YLE. Metadata will be made available as supplementary material for articles published on the basis of the data via OSF.

The data for WP2, as well as reproducible analysis scripts (R Markdown format) will be made available as supplementary material via OSF at the time of publication of the results/articles.

5.2 Where will data with long-term value be archived, and for how long?

The data use contract between YLE and PI defines that PI has access to the feedback data used in WP1 until 12/2020, after which the data has to be deleted.

All other data used in the project will be permanently archived in OSF.

5.3 Estimate the time and effort required for preparing the data in order to publish or to archive it.

The data preparation in WP1 requires scraping the YLE website for news articles and social media information, and will be handled by a research assistant. The data preparation for studies in WP2 requires data cleaning and filtering done by a trained research asisstant. Funding to cover the salary costs of a part-time research assistant for the full duration of the project is included in the project budget.