Unraveling the Impact of Online Peer Interactions on Young Individuals' Peer Relationship Quality and Mental Health

A Data Management Plan created using DMPonline.be

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Project abstract:
Research has shown that young individuals nowadays increasingly turn to social networking sites to formulate and maintain peer relationships. These online interactions, however, look quite different from offline interactions (e.g., absence of visual cues), thereby raising the question of whether this is beneficial or detrimental to young individuals' peer relationships. This is an important question because peer interactions have been proven to serve as a buffer (when being high quality) or risk factor (when being low quality) for young individuals' mental health. The aim of the current project is therefore to 1) grasp how the use of social networking sites transforms peer relationships, 2) examine under which conditions these transformations are positive or negative for young individuals' peer relationships and mental health, and 3) unravel developmental differences in these associations (adolescents vs. emerging adults). These aims will be reached by implementing a mixed-method design, consisting of qualitative focus group interviews and quantitative experience sampling studies.

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Research Data Summary

List and describe all datasets or research materials that you plan to generate/collect or reuse during your research project. For each dataset or data type (observational, experimental etc.), provide a short name & description (sufficient for yourself to know what data it is about), indicate whether the data are newly generated/collected or reused, digital or physical, also indicate the type of the data (the kind of content), its technical format (file extension), and an estimate of the upper limit of the volume of the data.

Dataset name	Description	New or reuse	Digital or Physical data	Data Type	File format	Data volume	Physical volume
Focus group interviews	Focus group interviews will be conducted among **early-middle adolescents** (12–14 years old), **middle-late adolescents** (15–17 years old), and **emerging adults** (18–25 years old). For each age group, I will conduct focus groups until the point of saturation is reached. This is expected to be about **six to seven focus groups**, as three to six focus groups are advised to identify 90% of the research themes of interest.	*New data*	Digital and physical data	**Sound:** The focus groups will be recorded in order to make data transcription possible. These recordings will be deleted after the interviews have been transcribed and no identifying data will be included in the focus group transcripts. **Textual:** -The participants and their parents will have to fill in (active/passive) consent forms before the participant can participate in the focus group interviews. - The interviews will be transcribed in MS Word format. **SOftware:** Nvivo will be used to analyse the transcripts and add relevant codes.	**Sound:** Interview recordings will consist of audio recordings in MP3 format. **Textual:** - The informed consent will initially be given to the participants and their parents in physical form but will be scanned in Word and PDF form for storage. - The interviews will be transcribed in Word format **SOftware:** an Nvivo project will be created (.nvp)	**Sound**: We expect to collect 18 interviews of 1 hour (+- 6 interviews per age group). This will result in a volume of audio recordings below 1GB **Textual:** - The Word and PDF forms of the scanned informed consents and transcribed interviews are expected to be below 1GB. **SOftware**: Th Nvivo project is expected to be below 1GB.	No physical samples will be collected.
Experience sampling method (ESM) study	A **14-day ESM study** will be conducted among a representative sample of Flemish early-middle adolescents (12–14 years old), middle-late adolescents (15–17 years old), and 7 emerging adults (18–25 years old). We expect to recruit 100-120 participants per age group. Participants will receive **1 background survey at the beginning, followed by 4 daily surveys during the 14-day study.**	New Data	Digital and Physical	**Textual:** **-** Participants will receive 1 background survey and 4 daily surveys each day. These surveys will initially be formulated in Word but will be sent out using specific software (see below). -At the beginning of the background survey, participants will have to fill in an online informed consent form. The parents of the participants will receive the (passive/active) informed consent form via mail (PDF) or physical letters. **SOftware:** - The surveys will be sent out using *m-Path*, an app that allows real-time monitoring of participants and follows the GDPR protocols. - After data collection, data will be downloaded from the m-Path app and analysed using *R*.	**Textual:** The surveys and informed consents will be in Word/PDF format. **SOftware:** - Data will be downloaded and implemented in R in .csv format.	**Textual:** The surveys and informed consents are expected to be below 1GB. **SOftware:** The data file of the ESM study (.csv) is expected to be between 1 and 5 GB.	No physical samples will be collected.

If you reuse existing data, please specify the source, preferably by using a persistent identifier (e.g. DOI, Handle, URL etc.) per dataset or data type:

No existing data from previous projects will be used.

Are there any ethical issues concerning the creation and/or use of the data (e.g. experiments on humans or animals, dual use)? If so, refer to specific datasets or data types when appropriate and provide the relevant ethical approval number.

- Yes, human subject data (Provide SMEC or EC approval number below)

Data will be collected among young individuals aged 12 to 25. No special categories of personal data will be collected and special attention will be paid to the privacy/anonymity of participants. Ethical approval has been obtained (PRET: G-2023-6844).

Will you process personal data? If so, please refer to specific datasets or data types when appropriate and provide the KU Leuven or UZ Leuven privacy register number (G or S number).

- Yes (Provide PRET G-number or EC S-number below)

We will work with pseudonymised/anonymized data and have received ethical approval for this via the PRET platform (G-2023-6844). In this approval application, we

thoroughly explain how we will pseudonymise the data and which particular safety measures will be taken.

Focus group interviews: The focus group interviews will be recorded in order to make transcription and data analysis possible. Whilst transcribing these recordings, we will anonymize them right away (only fictive name, gender, and age will be kept). To create the fictional name, we will store participants' names in a separate, password-protected file. This file can only be accessed by the researchers working on this project and will not be distributed to third parties. When the interviews are transcribed, this file will be deleted.

ESM study: We will provide each participant with a unique identification code to link the background questionnaire to the daily dairy checklists. The identification codes will only be used by the researchers and solely for the purpose of linking participants' data over different data collection points. All information that allows identification of the participants (e.g., email address) will be kept in a separate data file that will be encrypted and can only be accessed by a password known by the primary researcher. Furthermore, this file will be deleted as soon as the research project is completed.

Does your work have potential for commercial valorization (e.g. tech transfer, for example spin-offs, commercial exploitation, ...)? If so, please comment per dataset or data type where appropriate.

- No

Do existing 3rd party agreements restrict exploitation or dissemination of the data you (re)use (e.g. Material or Data transfer agreements, Research collaboration agreements)? If so, please explain in the comment section to what data they relate and what restrictions are in place.

- No

Are there any other legal issues, such as intellectual property rights and ownership, to be managed related to the data you (re)use? If so, please explain in the comment section to what data they relate and which restrictions will be asserted.

- No

Documentation and Metadata

Clearly describe what approach will be followed to capture the accompanying information necessary to keep data understandable and usable, for yourself and others, now and in the future (e.g. in terms of documentation levels and types required, procedures used, Electronic Lab Notebooks, README.txt files, codebook.tsv etc. where this information is recorded).

Focus group interviews:

- We will provide Word documents with the meaning of the codes
- We will make use of an Nvivo project to generate documentation and metadata
  - We will follow the guidelines as described in the following link DATA MANAGEMENT FOR QUALITATIVE DATA USING NVIVO9 (ukdataservice.ac.uk)

ESM study:

- We will provide a codebook with the naming of the variables, the meaning of the values, and the labels in order to interpret the dataset. This will be generated using SPSS.
- R code to analyse our data will be stored in specific R scripts.

For both studies, we will publish our materials within our organisation via the shared drive and outside our organization by making use of the Open Science Framework (OSF). Therefore, we will develop our documents with a special eye for transparency and reproducability.

Will a metadata standard be used to make it easier to find and reuse the data?
If so, please specify which metadata standard will be used.

If not, please specify which metadata will be created to make the data easier to find and reuse.

- No

We will make use of the personal (I-drive) and shared KU Leuven drive (J-drive) to make our research project visible within our organization.

In addition, the Open Science Framework (OSF) will be used as a repository for all materials that can be publicly shared, including code books, anonymized data, code for analyses.

Data Storage & Back-up during the Research Project

Where will the data be stored?

- Shared network drive (J-drive)
- Personal network drive (I-drive)
- Other (specify below)

OSF Framework

How will the data be backed up?

- Standard back-up provided by KU Leuven ICTS for my storage solution

Is there currently sufficient storage & backup capacity during the project?

If no or insufficient storage or backup capacities are available, explain how this will be taken care of.

- Yes

How will you ensure that the data are securely stored and not accessed or modified by unauthorized persons?

All data will be encrypted and can only be accessed by a password known by the researchers working on the project. Data will be stored on the networks provided by KU Leuven, which provide high security.

What are the expected costs for data storage and backup during the research project? How will these costs be covered?

No expected costs.

Data Preservation after the end of the Research Project

Which data will be retained for 10 years (or longer, in agreement with other retention policies that are applicable) after the end of the project?

In case some data cannot be preserved, clearly state the reasons for this (e.g. legal or contractual restrictions, storage/budget issues, institutional policies...).

- All data will be preserved for 10 years according to KU Leuven RDM policy
- Certain data cannot be kept for 10 years (explain below)

The recordings from the focus groups will be deleted as soon as all interviews are transcribed.

Where will these data be archived (stored and curated for the long-term)?

- Shared network drive (J-drive)
- Other (specify below)

Physical data (e.g., informed consent forms) will be stored in the principal investigator's office in a locked drawer or cabinet accessible only to the investigator.

What are the expected costs for data preservation during the expected retention period? How will these costs be covered?

No expected costs.

Data Sharing and Reuse

Will the data (or part of the data) be made available for reuse after/during the project?
Please explain per dataset or data type which data will be made available.

- Yes, as open data

If access is restricted, please specify who will be able to access the data and under what conditions.

Fully anonymized data will be provided on the Open Science Framework to encourage open science practices.

Are there any factors that restrict or prevent the sharing of (some of) the data (e.g. as defined in an agreement with a 3rd party, legal restrictions)?

Please explain per dataset or data type where appropriate.

- Yes, privacy aspects

- Yes, ethical aspects

All data will be fully anonymized before making this available. No identifying information will be kept and the demographic variables (gender, age, student status) will not be sufficient to identify the respondents should anyone try to do so.

Where will the data be made available?

If already known, please provide a repository per dataset or data type.

- Other data repository (specify below)
- KU Leuven RDR (Research Data Repository)

Open Science Framework (OSF) for both the transcripts of the focus group interviews and the data derived from the ESM study.

When will the data be made available?

- Upon publication of research results

Which data usage licenses are you going to provide?

If none, please explain why.

- Other (specify below)

We will make use of the following license Attribution-NonCommercial-NoDerivatives 4.0 International.
CC BY-NC-ND 4.0
- The most restrictive creative commons license. This only allows people to download and share our work for no commercial gain and for no other purposes.

Do you intend to add a persistent identifier (PID) to your dataset(s), e.g. a DOI or accession number? If already available, please provide it here.

- Yes, a PID will be added upon deposit in a data repository

A DOI will be attached to our data once collected and made available.

What are the expected costs for data sharing? How will these costs be covered?

No costs are expected for sharing as both KU Leuven RDR and OSF are free.

Responsibilities

Who will manage data documentation and metadata during the research project?

The Postdoctoral researcher (Robyn Vanherle) will be responsible for data documentation and metadata, under supervision of Prof. Dr. Kathleen Beullens (Promotor of the project).

Who will manage data storage and backup during the research project?

Also, the data storage and backup will be managed by Robyn Vanherle (postdoctoral researcher on this project).

Who will manage data preservation and sharing?

Data preservation and sharing will be managed by Robyn Vanherle (postdoctoral researcher on this project).

Who will update and implement this DMP?

Th postdoctoral researcher of this project, named Robyn Vanherle, will update and implement this DMP.