

## Example Application 2

### Provide title of project here

Investigating temporal trajectories of social and passive activities on social media and associations with mental health symptoms in adolescence and young adulthood.

### What is your first-choice institution to visit?

Centerdata, Tilburg, The Netherlands

### Name of the research infrastructure/dataset you wish to access.

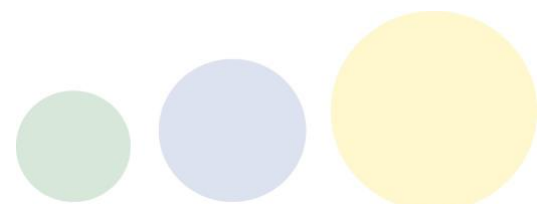
Longitudinal Internet Studies for the Social Sciences (LISS) (Centredata)

### Describe the objectives, context, and rationale of your project. (Word limit: 300 words)

Mental health is one of the leading causes of illness in youth populations (Gore et al., 2011). It is estimated that up to 75% of mental health problems emerge by the age of 25 (Kessler et al., 2007). There has been much debate within the area of youth mental health concerning the potentially adverse effects of social media use on young people's mental health (Berryman et al., 2018; Strickland, 2014). However, the link between social media use and mental health difficulties has been predominantly examined through cross-sectional studies. The longitudinal literature to date has focused primarily on testing the social displacement model, that is, the assumption that more time spent on social media leads to an increase in mental health symptomology (Coyne et al., 2020; Raudsepp & Kais, 2010). However, evidence for this linear relationship is mixed.

Contradictory results may be in part attributed to the use of overly simplistic and general definitions of social media use. Many studies adopt the crude measure of overall time spent on, or engaging with, any social media, categorising social media use dichotomously as either problematic or non-problematic. More recently, there has been a move toward understanding the unique impacts of differing types of activities engaged with via social media (Holloway, 2014; Lim et al., 2022;). Further, the overriding focus on the negative effects of social media use on young people's mental health has neglected the potentially protective nature of certain aspects of social media, in particular social interaction (Best et al., 2014). This aspect of social media use is even more pertinent for young people now in the context of the COVID-19 pandemic and related lockdowns. Research has demonstrated that online connections via social media are often an extension of offline connections and can serve to reinforce offline relationships (Wang & Wellman, 2010, Reich et al., 2012), and in some cases, decrease feelings of loneliness and isolation (Ellis et al., 2020).

The proposed study will examine the trajectories of time spent engaging in social communication online versus passively reading or viewing content on social media. Specifically the study aims to:



1. Assess the association between initial levels of social and passive engagement with social media and initial/baseline levels of mental health problems cross sectionally.
2. Describe the changes in social and passive engagement with social media and mental health problems over time.
3. Determine whether there is an association between trajectories of social and passive engagement with social media and mental health problems over time.

This research will help shed further light on the complex relationship between social media use and mental health difficulties within the periods of late adolescence and early adulthood.

**Describe the original and innovative aspects of your project, including the potential to inform policy where applicable. (Word limit: 150 words)**

Prior to the Covid-19 pandemic, the beneficial effects of online social communication were understated, where much of the literature adopted a problem-focused perspective on internet use. In comparison, the proposed study will approach social media use with a more balanced lens, examining the potentially differing trajectories of engaging passively or interacting socially via social media and mental health problems in adolescence and young adulthood.

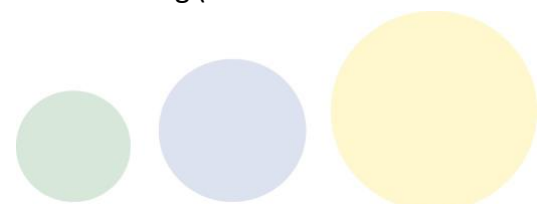
Findings from the proposed study could be used to inform the development of interventions targeted at young people experiencing mental health problems. Findings could also inform the development of resources for young people to promote safe and meaningful engagement with social media.

Finally, study findings will address the nuanced effects of specific online activities rather than focusing primarily on overall time spent on social media. This could provide further evidence for the protective nature of social communication online in research and practice.

**Provide the proposed method, work plan and schedule for your project. Please be as specific as possible. (Word limit: 300 words)**

The data for the current study were collected as part of the Longitudinal Internet Studies for the Social Sciences (LISS) panel by Centerdata, Tilburg University, The Netherlands. The sample is based on a population representative sample of Dutch households taken from the population register. Data for the proposed study will be drawn from three waves (12, 13, and 14) and will focus on those who fall within the 16-25 age bracket.

The analyses will focus on the repeated variables of online social interaction (as measured by self-reported average number of hours per week on average spent on chatting, video calling or sending messages via various online platforms), passive social media viewing (as measured



by self-reported average number of hours per week on average spent reading and viewing social media via various online platforms) and self-reported general mental health symptoms (as measured by the 5-item Mental Health Inventory), from waves 12, 13, and 14 of the LISS.

In the first step, descriptive statistics and zero-order correlations will be computed using SPSS.

Next, to test the hypothesis that changes in differing social media activities occur in parallel with changes in mental health symptoms, parallel process latent growth curve models will be estimated using MPlus.

Specifically, a series of independent latent growth curve models of online social interaction and mental health problems and passive social media use and mental health problems will be fitted to the data to examine the initial level (intercept) and rates of change (slope) over time. In a next step, intercepts, and slopes of change over time in online social media activities and mental health symptoms, respectively, will be modelled as latent variables in parallel and the covariances between each latent intercept and slope will be estimated.

In a final step, covariates will be added to the model to adjust for potential confounders including sociodemographic characteristics such as gender, primary occupation, gross household income, highest level of education & ethnicity.

During the three-week visit, the following method and schedule is proposed:

#### Week 1:

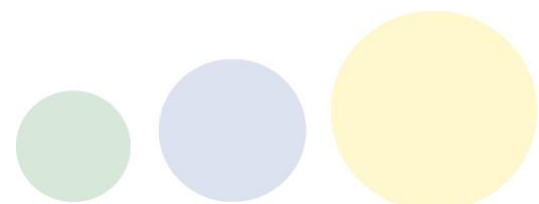
- Data cleaning and coding of relevant variables.
- Missing data examination.
- Development of study inclusion and exclusion criteria.
- Question and answers session.
- Shadowing experts and staff in Centerdata.

#### Week 2:

- Data analyses.
- Presentation of project to Centerdata team.
- Shadowing experts and staff in Centerdata.

#### Week 3:

- Finalising analyses and project wrap up.
- Proposal for write up and dissemination of study findings.



**Describe briefly the reason why you chose this host institution and/or dataset. For example, name potential researchers at the host institution who you would like to collaborate with. (Word limit: 150 words)**

I chose to apply to work with LISS in Centerdata, Tilburg due to the high quality, longitudinal nature of the dataset. The dataset has numerous waves of data, collected every year and as recently as 2021. This will allow for in-depth analyses related to my area of interest on internet usage, technology, and youth mental health.

Recent years has seen a move towards the importance of going beyond merely time spent online and exploring how young people use and engage with the internet and social media. The LISS dataset allows for the examination of how people use the internet and of specific note within this proposed study, use of social media. The age range included in the dataset also allows for the examination of social media use in adolescence and young adulthood, which represents a vulnerable age group for the development of mental health difficulties.

Finally, Centerdata has a range of expertise in various areas such as data science and policy research that I feel would provide me the opportunity to greatly develop both my longitudinal data analyses skills and ability to effectively translate this proposed piece of research to encourage effective knowledge exchange. The opportunity to liaise and network with various staff members including Dr Miquelle Marchand, Dr Patricia Prüfer, Dr Evi de Cock, Dr Marika de Bruijne, Prof Marcel Das, Dr Hendri Adriaens, and so many others would be invaluable to the development of both my skillset and the proposed project.

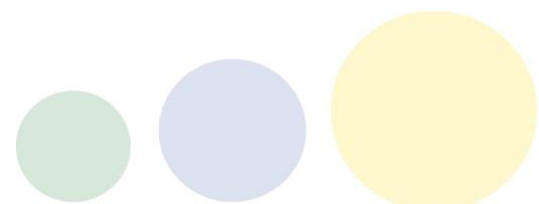
**Describe the potential risks and contingencies that might occur during the proposal and/or the project, and how you plan to avoid, mitigate, or resolve them. (Word limit: 150 words).**

Given the limited time available to spent within the data centre, there are some potential risks and contingencies that may occur during the project including successful collaboration and successful execution of project deliverables.

It may not be possible to engage with all relevant collaborators due to busy work schedules. To mitigate this risk, the visit will be proposed outside of summer months and discussion of the proposed project timeline will be scheduled via zoom with researchers in Centerdata ahead of time.

If successful, to ensure the project is executed successfully within the timeframe, a detailed work plan and Gantt chart will be created.

Finally, although the overall sample is large, the total number included within the 16-25 age bracket across the three proposed waves will inevitably be smaller. If the final sample following accounting for missingness is limited and compromises statistical power, the age range will be extended to include those between 16 and 30.



**Please describe what outcomes you would like from your visits (e.g. access to expertise in data, potential collaborators) (Word limit: 150 words).**

If successful, I plan to further advance my data analysis skills. Specifically, I hope to develop expertise in longitudinal data analyses. In my research career to date, I have had limited exposure to longitudinal datasets, but it is a personal goal of mine to familiarize myself with techniques in longitudinal modelling during my PhD. This opportunity would provide me the chance to develop my analyses skills while also conducting meaningful research within my area of interest.

I hope to build meaningful connections with researchers in Centerdata with the overall aim of establishing future research collaborations outside of my academic institution.

**Provide a short description of yourself. (Word limit: 150 words)**

I am a current 3rd year PhD candidate in the School of Psychology, \*University\*. I hold an undergraduate degree (B.A.) in Psychology from \*University\* and a Master's degree (MSc.) in Applied Psychology from \*University\*. I have worked for several years both clinically and in a research capacity within youth wellbeing, including as a research and evaluation officer for a youth mental health charity - \*Youth Mental Health Charity\*.

At present, I am conducting my PhD research in conjunction with \*Youth Mental Health Charity\* and as part of the Youth Mental Health Lab in the School of Psychology, \*University\*. My PhD project focuses on online chat-based interventions for youth mental health. My research interests are focused on youth mental health, young people's engagement with technology and social media, online counselling for youth mental health and the many ways in which young people use the internet to support their mental health.

