Methods in practice: Studying children and youth online; Documentation of the Website https://core-evidence.eu/methods-toolkit/handbook, retrieved 10 Nov 2022

Kotilainen, Sirkku (Ed.)

Erstveröffentlichung / Primary Publication
Sammelwerk / collection

METHODS IN PRACTICE

Studying children and youth online

Editor | Sirkku Kotilainen

CORE
Children Online:
Research and Evidence

Tampere University

The CO:RE Project is a Coordination and Support Action within the Horizon 2020 framework, which aims to build an international knowledge base on the impact of technological transformations on children and youth. Part of the knowledge base is a methods toolkit and accompanying online handbook, both of which are coordinated and produced by Sirkku Kotilainen, Jussi Okkonen and liris Tuvi at the University of Tampere (TUNI).

For all resources in the methods toolkit as well as this handbook fully accessible on the CO:RE Knowledge Base
visit core-evidence.eu/methods-toolkit.

Please cite this edited volume as:

Kotilainen, S. (Ed.) (2022). Methods in Practice: Studying Children and Youth Online. Documentation of the Website https://core-evidence.eu/methods-toolkit/handbook, retrieved 10 Nov 2022. DOI: https://doi.org/10.21241/ssoar.83031.

Table of Contents

Ethical aspects on studying children and youth as users online

Chapter 1
Introduction: Research interest and methodological approach

Sirkku Kotilainen

When formulating the problem and an interest of research, one needs to pose the research question and decide the methods to be used, depending on each other and the context of the study. Already the research question leads to thinking about the paradigm together with the objective of the research.

Regarding mixed methods research, paradigms have been understood as several worldviews meaning philosophical foundations (Creswell and Tashakkori, 2007); rooting from the methodological perspective as being an approach (Freshwater and Cahill, 2012) or stemming from different uses of the term "paradigm" (Mertens, 2012). All in all, the selection of methodological approaches is important for securing the robustness of the study in an ethical manner as well as possible. Thus, the key question is, how the mixed methods approach is in line with the philosophical foundations of the study.

Traditionally, paradigms of inquiry have been classified as (following Mertens, 2012):

- positivist/post positivist paradigm *aiming to describe* the phenomenon, mostly applying quantitative methods using, for example, experimental tools, testing or scales.
- interpretivist/ constructivist paradigm *aiming to understand* the phenomenon, mostly applying qualitative methods, for example, interviews, observation, or visual data analysis.
- transformative paradigm *aiming to change contextually*, applying mixed methods (avoiding discrimination)
- pragmatic paradigm *aiming to develop/ create in practice*, applying mixed methods matching the purpose of the study.

Both transformative and pragmatic approaches apply mixed methods. This has been one argument for critics, suggesting mixed methods as a paradigm itself (e.g., Ghiara, 2020). Cronenberg (2020) is suggesting a "paradigm parley" as a dialectic stance. Still, noticeable is that the philosophical foundations are differing with each other: transformative paradigm is aiming for political change in avoiding oppression, while

pragmatic paradigm is aiming to develop circumstances or create artifacts for specific purpose contextually.

Methods are not any isolated activities but linked with the research as a comprehensive setting of decisions and actions. Starting with a wicked problem, then going through a path of reflective thinking and reading, one can define the research question. That leads to certain methodological choices in a framework of inquiry including ways of analysing the data. Moreover, the research process is calling for ethical choices with actions to take in use.

This publication is about actual cases of making the research on digital cultures of children and young which can be of help in the methodological sense. Hopefully, the cases as reflective narratives of already implemented studies, can help the reader to avoid pitfalls on the way of studying children and youth online. The production of this publication started in 2021 with an open call for papers, followed by a referendum process and a few rounds of edits by authors. Finally, it was published in June 2022 in the form of short articles with authors' video abstracts online.

Articles are meant to deepen the Methods Toolkit[1] together with Ethical Compass[2]. First, authors introduce the actual case and context, second, they describe the main methodological practices used as mixed methods in the case and as third, authors map up the lessons learned as conclusion with selected references.

Short articles situate in three different fields of studying children and youth online as content-based: a) studying children and youth as users of digital media; b) participatory research with children and youth on digital media and, c) ethical aspects on studying children and youth as users online.

[1] www.core-evidence.eu/methods-toolkit
[2] www.core-evidence.eu/compass-for-research-ethics

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Handbook Part 1:
Studying children and youth as users of digital media

Chapter 2
Researching adolescents' digital technology usage with a smartphone-based ecological momentary assessment (EMA)[1]

Michaela Lebedikova, Michal Tkaczyk, Jana Blahosova, Steriani Elavsky and David Smahel

Children and youth spend increasingly more time on their smartphones, which significantly impacts their lives (George & Odgers, 2015). The current understanding of adolescents' smartphone usage is limited, relying primarily on self-report surveys, and qualitative research (Ólafsson, Livingstone & Haddon, 2014). Present research would benefit from new methods with high ecological validity that allow capturing the details about digital technology usage over time.

Ecological momentary assessment (EMA) methods may provide answers. EMA is aimed at studying daily lives and detailed temporal variability in experiences, moods, and behaviours in the natural environment. EMA involves intensive repeated data sampling (i.e., several times a day), allowing for the examination of both within- and between-person variability with both reduced retrospective recall and self-report bias (Heron et al., 2017). Recent developments and the ubiquity of smartphones among adolescents have allowed for sampling from adolescents' own phones (as opposed to researcher-supplied phones) to study authentic smartphone usage (Domoff et al., 2021, Ram et al., 2019). The self-reported data can be combined with objective data from smartphones or wearable devices to create a detailed and informationally rich picture of adolescents' smartphone usage and its impacts.

In our project, we aimed to fill this gap and developed an app to investigate the impact of smartphone usage on adolescents' well-being (IRTIS, 2021). Our study involves four measurement bursts spaced over one year. Each burst is 14 days long, with self-reported sampling four times a day. We combine the self-reported data with objective smartphone data logs and screenshot collections. To ensure the privacy of our participants, we developed machine-learning-based anonymization software (see the

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[1] Watch the chapter summary clip here: http://youtu.be/yoRnNOWxowQ

detail for how it works in Figure 1). The app development took two and half years and involved several pilot studies and in-house tests. The app is available only for Android devices and some technical problems persist on certain types of devices (e.g., the problems are mostly related to questionnaire notifications and battery optimization on Huawei and Xiaomi devices). Despite these technical issues, our first measurement burst with 201 participants (aged 13 to 17) had an overall compliance rate of 73% (for successfully notified questionnaires), which is an acceptable result and in line with other EMA studies with youth, which have average compliance of 76% (Heron et al., 2017).

Our experience suggests that the EMA method can be successfully applied by combining self-reported data with objective data from mobile phones, allowing for a unique understanding of adolescents' smartphone behaviour and the complex temporality of effects at both the within- and between-person levels. However, there are downsides to this approach. First, it is challenging to adapt the study design to fit school schedules. Second, despite developing anonymization software and having the approval of relevant ethical bodies, some participants reported distrust and intrusion upon their privacy as reasons for non-participation. Third, our app is downloadable through Google Play, where we faced privacy policy limitations to our data collection (e. g., Google Play unexpectedly removed our app several months after initial approval, forcing us to disable GPS logging component).

In terms of future directions, we plan to incorporate machine-learning approaches for the detection of risky behaviour (e.g., exposure to sexually explicit content). Concretely, screenshots will be processed using the optical character recognition (OCR) software we are developing. The data will be then automatically anonymized (Sotolar, Plhak & Smahel, 2021) and a machine learning text classifier will be developed to facilitate real-time automatic classification of specific behaviours. Our preliminary findings, based on anonymized Messenger conversations provided by participants of the pilot studies, show promising results for the classification of online risks and online supportive interactions.

Lessons learned

Despite some drawbacks, EMA is a suitable and feasible method (see Heron et al., 2017) for overcoming the limitations of the current research on adolescents' technology use. For researchers who consider using similar study designs, we underscore the importance of having a strong team of software developers for the entire duration of the project, as various technical issues and limitations emerge at all

stages of the research process. Second, we advise accounting for difficulties with both participation and adherence (lower participation rate and higher dropout rate than typically reported in studies with researcher-provided smartphones) due to privacy concerns and burdensome study protocol. Third, as this type of research requires significant privacy intrusion and involves third-party data, careful consideration of the legal and ethical ramifications remains a key necessity.
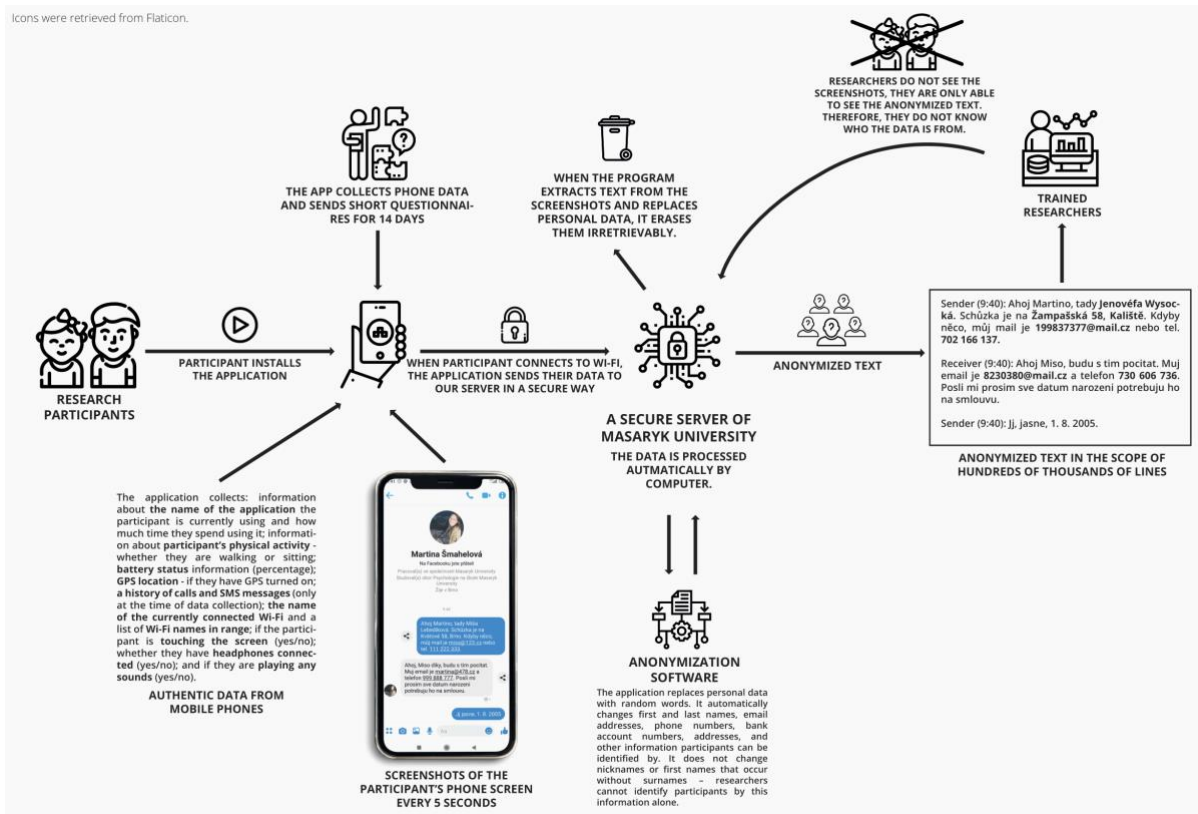
Figure 1. Explanation of our study of adolescent smartphone behaviour.

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Chapter 3

A multimethod approach to assessing children's 21st century digital skills[2]

Laure Lu Chen and Nirmala Rao

Education is central to preparing children to master 21st century digital skills, and many countries have reformed the assessment of learning of important skills among school-aged children. This paper considers the assessment of 21st century digital skills leveraging practices from the Learning and Assessment for Digital Citizenship project in Hong Kong.

Claro et al. (2012) first defined the abilities to solve problems of information, communication, and knowledge in digital environments as 21st century ICT skills. Later, drawing on a systematic review of the literature, van Laar et al. (2017) broadened this conceptualization and coined the term 21st century digital skills. In essence, 21st century digital skills comprise: (1) capabilities to use digital technologies; (2) competencies to retrieve, process and manage information; (3) capacities for critical thinking, creativity, and collaboration; and (4) problem solving abilities. Sharing with the same conceptualization, Vuorikari et al. (2016) developed a DigComp Framework, specifying five domains: (1) information and data literacy, (2) communication and collaboration, (3) digital content creation, (4) safety, and (5) problem-solving. This paper adopts the DigComp Framework and describes 21st century digital skills as the competences required by individuals when using technologies to achieve particular goals.

21st century digital skills can be measured by three methods: self-reports, performance assessments, and observational measures. Since self-reports are subject to social desirability bias, the "Learning and Assessment for Digital Citizenship" project employed the latter two methods for assessments as computer-based performance assessments and observational game-based assessment. Compared to a mono-method paradigm, a multimethod approach avoids common method variance (Campbell & Fiske, 1959).

The project used a longitudinal design with three cohorts (Primary 3, Secondary 1, Secondary 3) of school-aged children and therefore developed a DigComp

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[2]Watch the chapter summary clip here: http://youtu.be/niDLHD-IHyI

performance assessment for five grades of students: Primary 3, Primary 5, Secondary 1, Secondary 3 and Secondary 5. This computer-based performance assessment consisted of multiple-choice items and measured five domains of 21st century digital skills as: information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving. Participants completed the assessment on PCs or tablets in school. This provided an authentic context of technological use that has face validity. That stated this assessment is a human-to-agent design and is thus unable to measure true collaboration in problem solving. To compensate for this limitation, the project added a task-based assessment involving human-to-human interaction developed by the ATC21S project (Griffin et al., 2015). As this assessment was designed for children above 11 years, only pairs of secondary school students participated by communicating through the online chat box to complete designated tasks. Both computer-based performance assessments bring new ways to represent and measure 21st century digital skills in daily settings and increase the time flexibility of implementation.

In addition to the DigComp assessment, primary school children participated in an observational game-based assessment on collaborative problem solving. As children are easily affected by the surrounding environment, it is essential to provide naturalistic contexts to measure their skills (Epstein et al., 2004). Hence, researchers utilise real-world scenarios to do so. Participants were placed in groups to play a game on the tablets and allowed to draft plans on paper. Researchers took field notes and video recorded their interactions. After the game ended, researchers collected participants' paper notes and interviewed the participants. Although interpretation of observational assessment is subject to bias and resource intensity, it provides rich data on the cognitive and social development.

Lessons learned

- This research project adapted items from existing instruments and developed new ones to assess the development of 21st century digital skills in students from Primary 3 to Secondary 3 in 2018/2019 and 2020/2021 school years. We provide five recommendations for forthcoming research.

- First, the assessment of 21st century digital skills should be comprehensive and enable comparisons among a wide age range of students.

- Second, longitudinal studies that enable identification of developmental trajectories of 21st century digital skills should be conducted.

- Third, agility in the research process is important. For example, the tectonic shift to e-learning during COVID-19 pandemic led to changes in the planned measures and/or methods of data collection so that we were able to compare competencies before and during the COVID-19 pandemic.

- Fourth, the differences between human-to-agent and human-to-human paradigms need to be given adequate attention in the design of studies and the interpretation of results therefrom.

- Finally, attention needs to be accorded to differences in the abilities of collaborators in drawing conclusions from our findings.

End Note: Details of this project can be found at https://www.ecitizen.hk/.

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Chapter 4

Hard-to-guess but easy-to-remember: understanding children's password security issues[3]

Lamprini Chartofylaka, Pinelopi Troullinou and Antoine Delcroix

In recent years, children experience new educational settings through digital devices from a very young age. They also encounter an increased reliance on such devices to stay in touch and play with peers. This new reality brought afresh into public debate children's data and online privacy (Livingston et al., 2019). There is a growing body of research on children's knowledge and understanding of authentication practices and privacy issues (Ratakonda et al., 2019). Regarding password generator practices, children tend to include personal information (Maqsood et al., 2018). Yet, they show difficulties memorizing their passwords (Choong et al., 2019).

This paper presents key methodological steps employed at the TiNum project which focuses on password security issues for primary school students aged 10-11 years old. The research took place in 6 classes (114 pupils in total, 19 in average per class) in the archipelago of Guadeloupe (French West Indies) between November 2020 and May 2021. Storytelling was adopted as a pedagogical approach on teaching children strong password techniques. The ultimate goal was to develop a toolkit for teachers and parents devoted to raising awareness on data protection online and cultivating digital literacy skills.

The research activities were conducted in a real-world school setting for two subsequent days for the same class. Each activity was divided into two phases (first day: phase A, second day: phase B) lasting for an average duration of two hours. Prior to the implementation of the project, written consents were obtained from both parents and local school districts. The study was carried out by a researcher (first author) in the presence of the teacher of the respective class.

During phase A, children's prior knowledge on the concept of "password" was assessed. They were invited to write down or draw their ideas on a sticky note responding to the question "What is the first word that comes to your mind when I tell you 'password'?". Based on their responses, several topics were discussed such as the purpose of a password, the different forms of unlocking digital devices (unlock

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[3]Watch the chapter summary clip here: http://youtu.be/7mDzdOUJCm8

patterns, voice recognition, etc.), the utility of unique and different passwords for every use. Following, their privacy, online identity and security were discussed, especially when using social media. Examples from the list of the most common French passwords[4] (123456, password, AZERTY, soleil[5]...) were then used to explore password generator patterns. This activity introduced the discussion on the use of personal information (e.g., date of birth), dictionary or common words when creating passwords. Here, the idea of "password cracking" either by people close to us who can predict our behaviour or by brute force attacks was explained and discussed. The final task entailed the development of a strong password construction strategy using a given random name (written in lowercase) and date of birth (number). Children gave different ideas: mixing letters and numbers, using uppercase and lowercase, omitting some numbers. This hands-on activity allowed researchers to teach them official "best practices" on password principles (ANSSI, 2012) using their propositions.

The activity of phase B was based on the technique of storytelling, inviting children to generate their own imaginative stories. A storyboard template, including six empty boxes, was given to them. Following the researcher's instructions, they filled in step by step their story elements: hero(s), goal(s), friend(s), enemy(ies), triggering event, end of story. Children could write or/and draw according to their preferences. Once they had filled their template, they were asked to pick two distinct words from their story and create a strong password applying the rules they had learned in the previous phase (Figure). Stories produced in this context assist them in creating a unique and memorable password, serving as a "mnemonic device" (Chartofylaka & Delcroix, 2018).

This approach allows the teacher/educator to explore and identify students' knowledge and beliefs on a wide range of online security topics (phase A). Storytelling technique also fosters children's knowledge and digital media skills in a playful and engaging way: Phase B allows children to implement new knowledge acquired while encouraging their creativity.

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[4] See the Richelieu project on www.github.com/tarraschk/richelieu
[5] *"azerty"* refers to the French-language keyboards, which follow an azerty layout; *"soleil"* means "sun" in French.

Lessons learned

- The study showed that introducing playful techniques to raise awareness and cultivate skills in rather complicated issues such as online security and behaviour can be very effective.

- During research activities children, parents, and educators expressed ethical concerns over internet use such as anonymity. Therefore, dedicated sessions to discuss ethical issues related to cybersecurity could be planned accordingly.

- Wrap up sessions during which participants can discuss their own examples with their peers and their teacher could be useful. A password strength checker[6] could be used for verification.

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[6] An example of a password strength checker can be found here: www.scratch.mit.edu/projects/530311216/.

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Chapter 5

Child-centered qualitative interview[7]

Maarit Jaakkola

Interviewing children has been addressed in clinical psychology and medical studies (Kortesluoma et al., 2003; Poole & Lamb, 1998) and journalism (Jusović & Krajišnik, 2020). In media research, methodologies have been addressed from an ethical perspective (see e.g. Pedersen & Ladefoged, 2020), and as part of focus group interviews, often in connection to parents' interviews (see e.g. Adler et al., 2019), but the didactics of a successful individual interview have been less considered. This entry is based on experiences gained with 6-year-olds at a kindergarten (N=5) and 10-year-olds in the primary school (N=5) in Finland, to make pilot interviews on their media use. In these interviews, different during-the-interview strategies were tested. While the basic constellation of "inter-viewing" which refers to the mutual interaction between the interviewer (researcher) and the interviewee (respondent) still applies, children may not be able to understand the purpose and context of a research interview, concepts involved in the study design, or the mere idea of research.

A basic choice by the researcher is between an individual interview and a focus group interview. The interview can occur in a physical or mediated (online) space, and onsite interviews have the further choice of being conducted in formal settings (school) or informal settings (home). The interview can also be structured in other ways, such as oral or life history interview, where the respondent is asked to recall events from their own past. (Bryman, 2016, p. 201.) Based on the two groups interviewed, I would say that a semi-structured group interview in an onsite setting is preferred for children under 10 years old.

Further, I divide my considerations into pre-interview, during-the-interview, and after-interview perspectives. At the *pre-interview* stage, the principal questions centre upon access to children whose guardians must give consent to a research interview. Children are most often approached via institutions such as kindergartens and schools, youth centres, or leisure-time and hobby-related associations, which implies approaching a two- or even threefold gatekeeping structure: first, the

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[7]Watch the chapter summary clip here: http://youtu.be/F3gsNP_esww

superiors of employees must give an overall consent; then, for practical reasons, the employees responsible for the children; and, finally, the guardians of the minors.

From a *during-the-interview* perspective, the researchers need to select between a group interview to enable a dialogue between children who already know each other or an individual interview. Researchers should pay special attention, first, to the choice of place, and second, to the methods of inquiry. For the former, it is important to recognise how physical places regulate the roles of those involved, conveying codes and structures of power that we may not always be aware of. For example, a classroom implies an adult-led communication pattern, while in the child's own room at home, family rules apply. Conducting the interview at an unfamiliar or adult-dominated place may add to the sense of insecurity, while a place that the child has taken ownership of, such as the playroom in a kindergarten, may help the respondent be more comfortable, understanding the rules of child-to-adult interaction.

The second question is a matter of choosing an appropriate interview strategy, which, most often, cannot be transferred from a situation with adult respondents to the children's world. For example, in the case of inquiring about conceptions of consumption, children cannot be approached by asking about their opinions on consumption. In conducting the interview, the content should be translated into language that a child can understand and relate to. In this, there are some strategies that support asking questions, for example, such as:

- Exemplification: using toys, physical games, or other material artefacts as *aide-mémoire* to facilitate the interaction;

- Visualisation: using images and audiovisual material for concretely showing the interview thematic and triggering reactions, emotions, and questions from the child;

- Playfulness: turning a question-and-answer-situation into a play or role-play, involving suggested roles for the adult and child.

After-interview perspectives do not significantly differ from conventional interview methods. However, the diverse interactions – especially the question of how to report and interpret the playfulness outcome – may pose additional challenges. Furthermore, in playfulness interview situations, the researcher often becomes part of the interaction. These require increased transparency in reporting and communicating the results. A child-centric perspective of reporting the structured

interview means remaining true to authentic expressions and describing situations in as much detail as possible.

Lessons learned

- It may be common for the pre-interview phase to take more time than expected, as it has to be arranged during many "gatekeepers". In case the teachers choose the informants, researchers need to clearly communicate what kind of informants as, for example, at which age, which gender, and from what kind of backgrounds they are primarily looking for.

- For the interview itself, researchers may have different pre-chosen strategies to choose from, if one strategy does not work. However, a multi-strategy approach increases the risk of making results too varied, decreasing the validity of the study results. In practice, the strategies may be mixed according to the need of information; strategies may complement each other, and one strategy can be used for validating results from another strategy that has been applied.

- In the preparations for the interviews the researcher needs to know more about the physical and material resources available than in common question-and-answer interaction, and to be flexible and spontaneous in harnessing the potential of the surroundings for the dialogue. In after-interview reporting, the description of methodology, if playfulness or otherwise staged, takes a relatively high extent of space, which is a concern in journal articles with word limits.

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Chapter 6

Qualitative analysis of social media trace data concerning online peer support for adolescent sexting[8]

Heidi Hartikainen, Afsaneh Razi and Pamela Wisniewski

Adolescents use the internet to seek support concerning sex as it is accessible, interactive and allows for anonymity. In this chapter, we discuss qualitative analysis of a social media dataset from a peer support platform, catering to adolescents and young adults. The licensed dataset included over 5 million posts, 15 million comments, and metadata. The dates of posts and comments ranged from 2011 to 2017. We identify challenges concerning 1) sensitive, potentially triggering data, 2) scoping the dataset for analysis, and 3) working with a geographically dispersed team analyzing posts and comment threads regarding adolescent sexting.

Our research protocol was evaluated by the university's Institutional Review Board, which determined the dataset exempt from human subjects' review as personally identifiable information was removed. Because the dataset included sensitive topics like sex and self-harm, research team still completed training for working with human subjects. When reporting findings (see (Hartikainen et al., 2021a, 2021b; Razi et al., 2020), we anonymized and paraphrased quotes to ensure they are untraceable. Data was disguised by removing quotes and pseudonyms and introducing fictitious details that did not change the context (Bruckman, 2002). As data was potentially disturbing, research team was encouraged to take breaks and discuss any concerns.

Preparing the dataset for qualitative analysis was challenging due to large size and unstructured nature. To scope the data, we ran a query to identify posts a) by adolescents aged 13-17 b) containing online and sexual terms. We used teen social media and sexual jargon (Bissel, 2021) and added terms when reading through posts iteratively. This allowed us to downsize posts to 0.2% of those in the dataset.

We coded posts for relevancy in pairs. A post was relevant if 1) it sought support 2) involving an online sexual experience. We defined support seeking to direct support seeking (asking for help) and indirect support seeking (hinting problems) (Barbee & Cunningham, 1995). Later we scoped the dataset further to posts where sexual experience involved 3) someone the poster knew (Hartikainen et al., 2021a, 2021b),

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[8]Watch the chapter summary clip here: http://youtu.be/UnpbLsLRr8Q

as we found adolescents have more difficulty rejecting sexual solicitations from known others (Razi et al., 2020).

When conducting qualitative analysis, we coded data in three phases: 1) *Posts* with codes emerging from data, 2*) peer comments* with codebook based on classification of social support (Cutrona & Suhr, 1992), and 3) *poster replies* with codes emerging from data. Afterwards we used axial coding (Glen, 2014) to merge similar codes, group codes by theme, and identify patterns. We calculated Interrater-rater reliability to check the quality of annotation to be acceptable for all codes (Glen, 2014), and prepared a narrative synthesis illustrating results.

We observed a decrease in Inter-rater reliability after Covid-19 restrictions. We previously worked in the same space and discussed any issues, and while we continued to chat online, less discussions emerged organically. This led to less uniform coding. Problems might have been avoided by virtual working meetings, where coders discuss in real time. Another challenge was that digital trace data is not structured to find answers to research questions the same way as e.g. interview data. This makes it challenging to synthesize. Codebooks with clear definitions and example cases, perhaps based on established frameworks, help prevent disagreement, as do having coders complete parts of annotation together.

Lessons learned

- Researchers should complete training for working with human subjects and submit research protocol for evaluation to the institution's IRB.
- Automatic approaches like query searches with relevant keywords help scope the dataset to a feasible size for qualitative analysis.
- To make sure the process is valid and robust, code for relevancy and use an iterative process for selecting keywords to search.
- Social media trace data is unstructured, and coding labour-intensive and time-consuming. Clear codebook and discussing together ease the process.
- When coding, take care of the mental health of the research team by encouraging taking breaks, and to voice out concerns.
- If coding in geographically dispersed teams, arranging online coding sessions and discussing issues as they arise help ensure IRR.
- When reporting findings, disguise and anonymize quotations so they are not traceable.

In the end, while challenging, we found analysing digital trace data especially valuable concerning topics adolescents might not be comfortable talking about, as it provides a researcher independent glimpse into the topic. In addition to providing a snapshot in time, as datasets like this contain historical data, they could be used to study for example self-presentation over time and during life transitions.

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Handbook Part 2:
Participatory research with children and youth on digital media

Chapter 7

Children's voices in research: Q methodology as a facilitator of children's participation[1]

Marit Sukk

Calls for research rather than *on* children and children's rights discourse have paved the way for the emergence of participatory methodologies (Fargas-Malet et al., 2010), which enable us to view children as experts on their own lives. While interviews remain a widely used form of participatory research, more interactive and creative techniques like Q methodology might be necessary to maintain children's interest and help them express themselves (Gibson et al., 2018).

Q methodology (Q) combines quantitative and qualitative methods and is designed for investigating patterns of subjectivity (e.g., views, opinions) of social life (Watts & Stenner, 2012). I argue that Q is a child-friendly, participatory approach that can easily be tailored to children's age and developmental stage. Thus, even younger children can share their stories with relative ease, as evident from a recent study exploring 8- to 13-year-old Estonian pre-teens' (n=20) viewpoints and experiences related to their parents' usage of child-tracking technologies (Sukk & Siibak, 2021). In the following discussion, I will rely on the examples from the tracking study.

The first step of all Q methodological studies is to generate a concourse which aims to represent the things that people think or say about the research topic. It is commonplace to begin this process via academic literature. In the pre-teens' tracking study, popular resources (e.g., discussions on internet forums) were also used to achieve a balanced coverage. Next, a representative sample of the concourse, a Q set, is formed. Watts and Stenner (2012) suggest starting with a large number of statements, which can be reduced through piloting. Initial Q set for the pre-teens' study consisted of 76 statements which were narrowed down to 28 with the help of

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[1]Watch the chapter summary clip here: http://youtu.be/b5nOlC2189k

external experts on childhood studies and Q methodology. This approach is also often used in Q methodological studies.

The statements must be carefully formulated to enable participants to express their viewpoints. Personal approach and careful age-appropriate wording of the statements make the statements relatable and accessible to children, e.g., "I feel safe when my parents know where I am.". Descriptive statements help to reduce social desirability bias, encouraging participants to speak without judgement (Johnson & Van de Vijver, 2002), e.g., "Parents should not track their children without discussing it first.". Furthermore, descriptive items help children share their viewpoint about a situation even if they have not experienced it themselves.

Through sorting the statements, the participants provide a model of their viewpoint. Children in the tracking study were instructed to sort each statement into three categories: statements "you agree with", "you disagree with" and statements "you are unsure of". After that, the participants were encouraged to sort the cards using a scale of -5 ("most disagree with") to +5 ("most agree with"). Children could also sort a card in the category "0" i.e., they were unsure whether they agree or disagree. Sorting a set of predetermined statements meant that children did not have to verbalise their experiences but could rely on cards, thus focusing on the actual meaning of the statements. It is advisable to conduct a short interview before/after the sorting and/or ask open-ended questions during the exercise. Probing for more information and requesting stories or examples helps to get a deeper sense of children's viewpoints.

The main objective of Q analysis is to establish portions of shared meanings (i.e., factors) which identify a group of people who have sorted items in a very similar way (Watts & Stenner, 2012). For a detailed overview of factor analysis in Q methodology, see Watts and Stenner (2012).

Q methodology is a great tool for exploring the range and diversity of individual perspectives and discovering patterns between them. Its engaging nature is particularly suitable for research with children. Through meticulous work, the limitations of Q can be overcome, providing a truly unique way of studying human subjectivity.

Lessons learned

Strengths of the methodology include:

- Q methodology can encourage children's reflections in a systematic manner. (Ellingsen et al., 2014) as the data is collected in the form of Q sorts.

- Furthermore, since some children can find it difficult to talk to strangers about their thoughts, sharing opinions through fixed statements may make participation less intimidating (Ellingsen et al., 2014).

- Q methodology can foster inclusion as statements can be pictures or even single words, meaning that even small children can share their stories. Thus, Q can be viewed as a child-friendly approach.

Some limitations of Q are:

- Since only shared viewpoints emerge through factor analysis, all the subjective experiences may not be included.

- Furthermore, the results cannot be generalised to a larger population.

- Critics have questioned Q's reliability as repeating the process with the same participant does not necessarily yield the same perspectives (Cross, 2005).

- Moreover, concourse development takes rigorous effort to ensure that participants' subjectivity is not limited by poorly chosen predetermined statements. Those not familiar with Q methodological factor analysis must strive to grasp its nuances to achieve meaningful results.

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Chapter 8

Visual creative research methods and young people's perceptions of online risks[2]

Maria Murumaa-Mengel

In 2012, I was planning to tackle the subject of arguably the "worst" of the online nightmare audiences for my PhD project, aiming to study young people's perceptions and experiences with online predators (Murumaa-Mengel, 2015). Knowing that face-to-face interviews could become stressful and awkward if carried out in the traditional question-answer format with rigid researcher-participant roles, I was seeking a method that would give participants editorial control, the opportunity to sort their thoughts in peace, have time for expressing themselves, and collaborate in the interpretation of the data. This section is based on my experiences in exploring the potential of creative research methods (CRMs) in the context of sensitive topics.

The approach is located within a broader framework, often referred to as visual research methods. In CRMs, participants are asked to produce artifacts such as drawings, videos, collages, Lego-constructions, or clay figures and hence, "to spend time applying their playful or creative attention to the act of making something symbolic or metaphorical, and then reflecting on it" (Gauntlett, 2007, 3). Linear creative research design (create first, talk later) gives time for reflective thought processes, parallel creative process (create and explain simultaneously) allows the researcher to explore the thought process and creation, too.

It is crucial to emphasize, in academic writing and to the participants, that "creative" is not a cultural value judgment, but rather a descriptive term for a "thing" that did not exist before. CRMs study procedure considers the fact that creative reflective processes take more time and thus also demand greater reflection from participants. Creative artifacts created by young people "may not be amenable to straightforward adult readings" (Thomson, 2008, 10), thus research designs employing CRMs should provide time and effort to really listen to the young authors' interpretations. Critics have pointed at the subjectivity and "naïve empiricism" (Buckingham, 2009) of CRMs, but I agree with contemporary scholarly discussions around "objectivity", as a

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[2]Watch the chapter summary clip here: http://youtu.be/sENudKXHFVU

problematic construct itself. As science can only be performed through subjects," fully objective knowledge in this view is impossible for us humans" (Lindhult, 2019, 24).

Methods in action is based on two short examples of how I have used CRMs. First, there was a study focusing on how young people perceive online predators and what influences the formation of these perceptions. I asked 17–20-year-olds to draw sketches of "online perverts" and, later, carried out in-depth interviews to elicit oral descriptions of and reflections on their drawings. Visual CRMs helped to "zoom in" on the phenomenon and its intricate details. Figure 1 depicts one drawing that served as the basis for talking about perceived grooming scenarios, offender's background, and victims of such crimes (see detailed discussion about the method, ethical considerations, and study procedure in Murumaa-Mengel, 2015, 2017).

Second example is a mixed method pilot study to explore young adults' self-
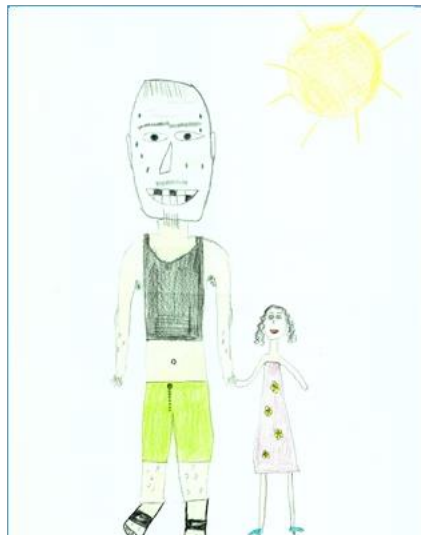
Figure 2: Participant's drawing of an online pervert and his victim (Murumaa-Mengel, 2015).

presentation practices and imagined audiences on Tinder. Here CRMs afforded to concretize the topic and "hook the thought" into something more comprehensible, for example, participants organizing their thoughts on various experiences and user types. On Figure 2, young female participant's drawing of a typical Tinder user, generating further discussion on different self-presentation strategies and perceived threats on dating apps.

Figure 3: Participant's drawing: "Fuckboy: classic 20-year-old football-guy".

Analysis of CRMs' data is usually focused on the interview transcripts, traditional within-case and cross-case qualitative text analysis methods, thematic analysis, grounded theory, etc. Visual socio-semiotic methods and discourse analysis techniques enrich the results. In my "perv-study", I chose a collaborative path, and we analyzed the drawings together with the participants. For example, attention was given to the demand-offer relationship with the viewer (is the depicted presented as object of the gaze or "demanding" eye contact); do we see the person depicted from far away or are they presented via a close-up (social distance); or the symbolic power drawn into the vectors of viewing (looking down on or up to someone). By deconstructing and discussing the drawings, participants' visual literacies and reflexivity could benefit from the research process and researchers will have data that has authors' in-depth interpretations of created materials (read more from Murumaa-Mengel, 2017).

Lessons learned

- CRMs complement the concept of active audiences, as participants can embody the role of a producer (both, producer and user of content and meanings).

- Researchers should counter and mitigate participants' own overly critical perceptions of their artistic skills (emphasizing that it does not really matter how "well" something is drawn/built/photographed).

- BYOD-principle (bring your own device) and digital creations can be beneficial to CRMs, as smart devices move with people in various contexts

that often remain hidden to the public(s) or researchers. Examples include studies on illness and pain (Cheung, Saini & Smith, 2016) and activism and disruption of social norms (Rowsell & Shillitoe, 2019).

- Avoid the so-called Omniscient Scholar's viewpoint, as these adult readings ("the man on the drawing has no hands, it means that he is not perceived as an active agent") can be misguided (e.g., the participant just forgot to draw the hands).

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Chapter 9

Creating a shared understanding with children of the process in long-term digital technology design projects[3]

Leena Ventä-Olkkonen, Heidi Hartikainen, Marianne Kinnula and Netta Iivari

A challenge we have encountered in project-based working with children is how to create a shared understanding with children of the process and goals of projects that span over several sessions. One may try to mitigate that by careful preparation. Next, we describe the challenge, analyze reasons behind that, and propose ways to tackle that. As an example, we present Finnish cultural foundation project: *Children as technology makers and shapers – integrating technology making into comprehensive school education (Demakids)*, which was conducted year 2018 with several schools in the Oulu area, in Northern Finland.

Long-term design and making projects conducted with schools can last from some weeks to months, with sessions on a weekly basis. In the separate sessions, children experiment with technology design and making, e.g., by sensitizing with the topic, field studies, ideation, designing, prototyping, evaluation, and reflection. In such long-term work, there is a possibility for children to invest more in different phases of the design process and gain a deeper understanding of the process, compared to short-term working. While the different sessions focus on certain phases of the design cycle, it is important that children understand how the phases belong together and work towards the same goal, i.e., towards creating something new to make the world a better place. This has proved challenging. It may appear to children they are doing separate things in the sessions, not connected to each other; they do not always see how each phase of the iterative process links to the other phases and how they build on top of each other. As an example, observing and interviewing potential technology users in the first phase might appear irrelevant for technology ideation in the later phase, if children do not understand that goal of both activities and the linkage between them, i.e., finding out the interests and needs of potential technology users and based on that ideating new technology for the purpose of meeting their needs, ending up in creating technology that helps the life of the users – the final goal of the whole project. In addition to this, problems might appear if children miss specific sessions and knowledge gained within those.

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[3]Watch the chapter summary clip here: http://youtu.be/mMx_CqpLYL8

A making project with two classes, one with 10-year-old pupils, and one with 14-15-year-old pupils started with a field study session where the idea was to collect user needs and ideas through interviewing potential technology users, recording those interviews for the later use, as well as through observing the users' behavior in certain situations. The goal was to develop a specific product idea in the ideation phase, based on the information gathered by interviewing and observing. This was explained to the participants at the beginning of the field study session. However, we found out later that the reasoning as to why observations were conducted in the first place remained obscure for most children; they did not understand the connection between observing or interviewing people and designing something for those people. Furthermore, utilizing results from the recorded interviews was forgotten in the design phase, as children's own ideas, based on what they were personally interested in, overshadowed the collected field data. (see e.g. Hartikainen et al., 2021; Ventä-Olkkonen et al., 2020)

Lessons learned

- We underscore that conducting longitudinal design and making projects in schools brings in the challenge of creating a shared understanding of the process and goals with children. We emphasize that creation of such a shared understanding needs to be seen as an on-going, evolving process, which starts when the project activities are initiated with the children and continues until the end of the activities.

- Despite possible time constraints at school, spending ample time on explaining to children the process in the beginning of the project helps them understand the goals, reasoning for the different activities and phases and the interlinking between them.

- Starting each session by showing a visualization of the process, e.g a diagram of the design process, provides a good ground for recapping the previous phases, reminding children of the purpose of the current phase, linking it to the overall work and briefly introducing what is still to come. The purpose and goals of each activity should be justified carefully, to crystallize to the children why it is part of the project.

- However, we still wish to remind that children will make their own interpretations, no matter how often and carefully adults explain and justify the goals and purposes to them.

Despite the challenges involved in conducting design and making projects with children, we see a lot of value in them: they offer children valuable skills and competencies and empower children to take a more active role in shaping our digital futures. For researchers the projects offer an opportunity to peek into what is interesting and relevant for children and how they could be supported in growing up as active citizens who have agency in their digital present and future.

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Chapter 10

In their voices: Foregrounding young people's social media practices and experiences[4]

Devina Sarwatay

A rights-based, culture-centred, and participatory approach towards studying children and their online practices is important to foreground young people's voices and centre their experiences to unpack their social media lives. It lends a more nuanced, contextual examination and lays the ground for evidence-based policy making (Livingstone, 2021; Sarwatay et al., 2021; Third et al., 2014). This work describes methods used to foreground young people's voices regarding their practices and experiences on social media in India based on a doctoral study (in process since 2018) titled 'Growing up on social media: Indian adolescents' experiences, perceptions, and practices'.

In order to dig deeper into young people's presentations of themselves and lives on/with/in social media, a qualitative/ethnographic approach helped examine the hows and whys in the inquiry. The in-depth semi-structured interview method was fitting, but not enough. There are many aspects to children's social media lives that can only be studied by actually engaging with their presence online. This led to including a 'guided tour of social media' as well as 'longer engagement by following each other' on a platform of their choice as additional research tools.

After the research briefing with participants in the presence of an adult caregiver (parent/teacher), consent and assent forms for adults and participants (10-18 years) respectively were signed. The researcher and participant(s) went into an in-depth semi-structured interview (60-90 min) conducted in language(s) of their choice in an informal fashion to ensure participants' comfort and ease. Questions about their access, uses, practices, experiences, safety, privacy, mediation (by parent(s), teacher(s), sibling(s)), problem-solving, and others that would help understand their self-presentation, identity-creation, meaning-making, and social media lives and practices were asked. Information about researcher's social media life was also shared, especially if participants had questions.

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[4]Watch the chapter summary clip here: http://youtu.be/4dB7VqKZVHo

The 'guided tour' towards the end of the interview involved a reciprocal and consensual sharing of social media profiles usually on Instagram or TikTok (now banned in India). They took the researcher through their feeds and profiles, and explained why they made choices like profile pictures, bios, whether to keep their accounts public or private, etc. In some cases, we also 'followed each other' on these platforms which allowed to partake in a more active - in most cases - and 'longer engagement' (for around one-two month(s) from the date of interview) with participants, including liking, sharing, and/or commenting on each other's posts on these platforms. This also allowed them to view third party content like memes and other accounts participants and researchers both engaged with and followed, especially on Instagram.

In-depth interviews offered a chance to grasp how young people use, practice, and experience social media in their everyday lives. The guided tour allowed further scope to study identity-creation, meaning-making, and self-presentation online even as we see how their lives emerge in/through a digital/social world. Longer engagement has the added advantage of seeing how the interview and tour testimonies stack up and how their personalities and practices evolve over time.

Using an inductive approach and grounded theory, the researcher identified themes, codes, and categories that the data revealed for the central narrative/pattern around young people and social media in India. Given that the data was collected using multi-modal methods, open, axial coding revealed similarities and differences, and, eventually, the overarching theory(ies) from the data helped us further engage with young people's digital cultures in India.

Multi-modal methods lend a certain validity and robustness to research since it is possible to triangulate data about participants from their interviews, guided tour, and longer interaction. Since the researcher was interacting with children and adolescents, there was a need to be mindful of the multiple roles to play as a researcher who wants her work to reflect their voices without compromising on their wellbeing, while also establishing and maintaining rapport. This is why participants were repeatedly asked for consent to move forward and have been anonymised from the transcription stage itself. Care is taken to redact any personal, identifiable information from any work within the researcher's personal data archives and of course any work that is presented or published.

Lesson learned

Research like this is exploratory in nature, therefore the following things emerged as lessons learned during this process:

- For complex explorations and detailed inquiries such as this one, a qualitative and/or ethnographic approach works well.

- Multi-modal methods and triangulation of data helps ensure children's narratives as recorded in interviews match well with and reveal more about their practices on social media as captured during the guided tour and longer engagement.

- We need to remind ourselves of the multiple roles we play as researchers at different stages of the process and weave in necessary care at that stage in the role we are playing; for e.g., upholding ethical considerations while collecting data especially with vulnerable participants.

- While framing the inquiry, we must ensure we have the necessary literature, theories and frameworks, and ethical guidelines (for e.g., 'Ethical Research Involving Children' and 'Ethical Considerations When Using Social Media for Evidence Generation') anchoring our proposal and Institutional Ethics Committee/ Review Board work.

- During data collection, we must (re)check that participants are aware of the study and their rights and are participating safely and willingly.

- While analysing and reporting, we must ensure the work truly enlists young people as empirical experts by foregrounding their voices and experiences while protecting their anonymity and safeguarding their wellbeing.

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Handbook Part 3:
Ethical aspects on studying children and youth as users online

Chapter 11
Consulting children during COVID-19: managing research ethics on zoom[1]

Kruakae Pothong and Sonia Livingstone

Everyday life became digital by default during the COVID-19 pandemic, highlighting the importance of digital infrastructures in our daily lives and public participation (Livingstone, 2021). To examine experiences of children's play in a digital world, the UK-based Digital Futures Commission undertook a public consultation during spring 2021 with children and young people, parents and caregivers, and professionals working with children. By deliberating the qualities of free play (Cowan, 2020) and how these are facilitated or undermined by features of the digital environment, the consultation realised children's right to participation by involving them in generating recommendations for 'Playful by Design' (Livingstone et al., 2021).

We devised an online consultation method combining uses of deliberation in research with children and young people (Coleman et al., 2018) with cultural probes, a design-led technique to deepen understanding of users and inspire technological innovation (Wyeth & Diercke, 2006). We relied on the open-ended and reflective qualities of deliberation to support participants to work through their experiences and articulate their value preferences for play in the digital environment. We also rethought recruitment and developed a protocol for interviews on Zoom to ensure ethical and meaningful engagement with participants. With this, we contribute to the methodological resources on child online participation (Cortesi et al., 2021).

Over a three-month period, we recruited 126 participants, half children (aged 3 – 18) and half adults, two thirds of them women and girls. Although we had hoped for an even gender balance, we judged our recruitment during the pandemic successful due to our streamlined recruitment process and consultation design. We began each consultation with an ice-breaking conversation about participants' recent playful

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[1]Watch the chapter summary clip here: http://youtu.be/dwz9FJ5413U

activities. We then showed colourful line drawings illustrating the qualities of free play in non-digital contexts to serve as cultural probes. These linked participants' experiences to our conceptual framework and prompted them to re-evaluate their experiences of playing in digital contexts by reflecting on the qualities of play and generating lively critical reflections on how their experience could be enhanced through design solutions.

COVID-19 restrictions on in-person interaction posed significant challenges throughout the research process, from recruitment to obtaining informed consent, devising the topic guide and managing discussions on Zoom effectively and ethically. Children could not be recruited via schools during the pandemic, so we created a public call, promoted through social media, inviting intermediaries (public and commercial organisations concerned with play, as well as youth groups, parent groups, etc.) to help recruit groups of participants with whom they already had contact.

To obtain informed consent, we developed streamlined email templates for participants under 18 and over 18, after some experimentation to discover what worked and to avoid the onboarding frictions of printing, signing, scanning and attaching consent forms. Each email provided straightforward information about the research and its ethical commitments to confidentiality, anonymity and participants' rights to disengage without consequences. Participants consented by adding their name, date, and typing *X* next to each condition of their participation before emailing it back to us.

It proved difficult to obtain parental consent for children, so we relied on the intermediary organisations to ensure this or sometimes we interviewed children together with a parent or caregiver. In such cases, and for some adult participants, we collected verbal consent to participate at the start of the audio-recorded Zoom interview. In such circumstances, we reminded participants what the consultation and our ethics process involved before asking participants to state their consent on the recording.

Adapting to precarious participant interest, we allowed some spontaneous and varied group formation: for example, a group of young people and the professionals working with them, family groups comprising one or two parents with their children, or a combination of parents and professionals. Our pilot research suggested potential digital fatigue, so we limited our online consultation to 45 minutes each. We

maintained the participant/moderator ratio at a maximum of six participants per moderator to ensure full participation and a lively discussion.

For ethical reasons, turned off the direct messaging function, and only created Zoom breakout rooms if we, having passed the UK Disclosure and Barring Service (DBS), could each moderate a room. Also for safety and security reasons, we provided a fresh Zoom link and password to join our consultation after participants confirmed their attendance. To ensure participants' anonymity, we deleted the video, retaining only the audio recording from Zoom for the purposes of transcription.

Lessons learned

- When circumstances change, as during the COVID-19 pandemic, researchers should be ready to rethink their methods and redesign their practices to ensure effective and ethical research.

- Streamlining the recruitment and ethics procedures helps reduce joining frictions and overcoming pandemic and Zoom-related stresses;

- Our consultation design engaged participants in ways that they found meaningful, enabling them to draw on their experiential knowledge to ground recommendations compatible with the language of policy and design;

- We found that children seek similar qualities of play in both digital and non-digital environments, but that the digital environment lacks opportunities for children to explore and push boundaries within safe parameters; hence we recommend 'Playful by Design.'

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Chapter 12

Researcher-imposed context collapse in digital ethnographic research[2]

Christian Ilbury

Context collapse, the flattening of disparate audiences into one, has been a central concept in theorising social media interaction. An abundance of work has explored how users manage context collapse through a range of self-presentation strategies including censorship, audience modulated styles of interaction, and privacy settings (e.g., Marwick & boyd, 2011; Gil-Lopez et al., 2018). This paper examines the *researcher-imposed context collapse* that is created in digital ethnographic research based on a year-long blended online/offline ethnographic project in an East London youth group conducted between 2016 and 2017 as a 'blended' ethnographic approach (Androutsopoulos, 2008) which explored how individuals' networked interactions are embedded within broader 'offline' contexts of use. I consider here the **ethical challenges** that arise when conducting research on the digital practices of young people.

Research which has examined young people's digital practices has tended to show users design their messages and profiles for an imagined audience that comprises peers and those with similar interests (Marwick & boyd, 2011). As such, digital ethnographic methods such as 'lurking' or 'invisible observation' (Varis, 2014), impose a context collapse of researcher-participant interactions.

The main online component of this research involved the adoption of digital ethnographic methods, such as 'lurking'. In addition, I also collected and analysed a subset of the young people's social media posts, primarily by accessing a subset of users Snapchat Stories. To generate a corpus of social media posts, the stories were randomly sampled using screen captures[3]. Herein lies the issue. As discussed previously, young people design social media content *for* a *specific* audience – usually their peers. However, by viewing and accessing the young people's stories, I had, inadvertently, created a type of context-collapse.

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[2] Watch the chapter summary clip here: http://youtu.be/vaZ3fcaehjM

[3] Consent was obtained from parents, and assent from the child. Consent for the study was additionally obtained from the youth group management.

This poses several ethical and practical challenges. In the interests of space, I focus on two main issues here. The first issue is that, given that Snapchat permits users to view those who have accessed the story, the individual could (potentially) adapt their behaviour in response to being observed (i.e., the 'observer effect'). The second is that, if the individual does not change their habits, the researcher is now privy to the users' unmodulated styles of online presentation which, as previously discussed, are designed for their peers, not the researcher.

Whilst these issues may be relevant to other (offline) research settings, they are potentially heightened in digital contexts given that the informal nature of social media environments can lead users to (unintentionally) reveal sensitive or personal information. Indeed, research has shown that digital environments tend to reduce social inhibitions, with individuals disclosing personal information (e.g., Roberts et al., 2000), adopting alternative identities (e.g., Ilbury, 2019), and engaging in miscreant behaviour (e.g., Lane, 2019). In my own research, I observed similar practices. For instance, users would post screenshots of private interactions with friends, upload videos of unruly behaviour, and reference personal details, such as phone numbers.

Whilst individuals had agreed to participate in the study and contribute to the corpus of social media posts, it would be problematic to assume that all posts were suitable for extraction and/or analysis. As researchers, we have a care of duty to participants – particularly when studying the practices of young people. Thus, I would argue that, following Tagg and colleagues (2016), it is necessary to adopt a reflexive approach to research ethics, where procedures and methods can be adapted in response to the practices and expectations of the participants.

For this reason, I adopted several practical and procedural measures to ensure that the data sampling procedure was responsible. The first procedure utilises the 'screenshot notification' affordance of Snapchat. On the app, it is standard policy for Snapchat to notify to the user that their image or video has been screen captured. Whilst this could be potentially viewed as a limitation of the data collection process, I suggest that this affordance can be used as an additional safeguarding feature. In other words, since participants were alerted to the stories that I sampled, it was possible for the young people to request for the image/video to be removed from the corpus. This was utilised in a few cases where the participant was concerned about the potential for the upload to be misinterpreted by those not privy to the original interaction.

The second measure that I employed was a reflexive approach to sampling and analysis. Although I had anonymised the data by assigning participants pseudonyms and editing images/videos to remove personal details or identifying information, I extracted and analysed only those stories which, if decontextualised, would not be harmful to my participants. In future, these issues could be further addressed by implementing a debriefing process after the study has concluded where participants could be invited to review their data and if necessary, have content removed from the corpus.

Lessons learned

- the need to adopt a reflexive approach to digital ethnographic research where the researcher adapts their methodological tools to account for the changing expectations of and relationships with participants

- it is possible to utilize app affordances, such as screenshot notifications, to increase safeguarding measures in our research

- it is a necessary trade-off to ensure that we are conducting responsible and ethical research on young people's digital practices.

End Note: I gratefully acknowledge the feedback from the reviewers and editors of this volume who helped improve this contribution considerably. This piece is dedicated to the young people who very kindly participated in the study.

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Chapter 13

Conducting school-based online survey during the COVID-19 pandemic: Fieldwork practices and ethical dilemmas[4]

Veronika Kalmus, Signe Opermann and Mari-Liis Tikerperi

Online surveys provide a time- and cost-efficient solution for data collection with digital devices (Vehovar & Lozar Manfreda, 2017) and in various modes of participation. Besides advantages, online research brings along challenges related to access and literacies (Granello & Wheaton, 2004), participants' privacy and confidentiality, sampling procedures and consent obtaining (franzke et al., 2020), and data quality (Rasmussen, 2017). Concerns, furthermore, revolve around the design and structure of the questionnaire, measurement of performance and response, and participants' engagement with the survey.

This chapter discusses a practical experience of conducting a school-based online survey in Spring 2021, in the context of the COVID-19 pandemic. Within the international project ySKILLS, aiming to study online experiences and digital skills of 12–17 years old students in six European countries, we conducted a self-administered online survey in nine Estonian schools. By adapting to the distance and hybrid learning situations, the research team of seven people held 80 survey sessions in three different synchronous modes. Most sessions (57) took place via Zoom, Teams, or Google Meet, involving students, teachers, and researchers; 15 sessions were held in hybrid classrooms, with students and teachers participating on-site and researchers via online meeting platforms; 8 sessions took place in physical classroom settings.

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[4]Watch the chapter summary clip here: http://youtu.be/SkupttvzTlk

Table 1: Overview of the school-based online survey participation among Estonian students across three survey modes in 2021

Survey modes	Students in schools	Participated		Questionnaire completed	Sessions	Average time
	N	N	%	%		Minutes
Fully online	1274	1034	81.2	91.8	57	47.2
Hybrid	261	179	68.6	99.4	15	38.5
In-classroom	132	119	90.2	100	8	36
Total	**1667**	**1332**	**79.9**	**93.5**	**80**	**42.8**

Table 1 shows that the in-classroom and hybrid modes increased focusing on the questionnaire (evidenced by shorter completion times). The participation rate proved to be the highest in the in-classroom sessions. However, the participation rate varied between the schools within all modes. The crucial factors were school principals' support, teachers' and educational technologists' assistance, and parents' willingness to consent to their child's participation.

The main strengths of online surveys are related to increasing the flexibility of space and time, thus facilitating the logistics for schools and researchers. Conducting the survey in digital environments was the only way to surpass the pandemic-related restrictions. The fully online and hybrid mode enabled us, furthermore, to broaden the geographical coverage of the sample and expand the time limits of one school lesson (by letting the students to finish the survey afterwards). These affordances increased the chances for full participation of students with special needs and/or less skills, thus decreasing sample bias and improving data quality.

One of the challenges was obtaining parental consent via online means under the pandemic-induced conditions of digital school-home communication, and information overload and fatigue. Our attempt of getting active written consent from parents through school-home communication platforms resulted in a very low response rate (26% in one school). Sticking to active parental consent would have meant being limited to a small and biased sample or exerting further pressure on schools to contact parents repeatedly. After weighing methodological and ethical arguments, we decided to let schools have a voice in the process and followed their advice to switch to passive parental consent. Parents received a message with the information

and consent sheet and convenient instructions for expressing non-consent. About 5% of parents declined.

Unexpectedly, obtaining parental consent via online channels sometimes excluded the child from the teacher-parent communication on this matter. A few children, unaware of their parent's refusal, turned up in online survey sessions, willing to participate. This raised an ethical dilemma about respecting the child's rights and dignity versus parental will. We tried to solve those cases discreetly (e.g., letting the child fill in the survey and deleting the data later).

Another ethical dilemma was related to instructing the students to switch their web camera on/ off during the online survey session. Switching the camera off provided the child with complete privacy with respect to the researcher, the teacher, and the classmates, while opening the possibility of privacy intrusion and interference by family members. As neither option had obvious advantages, we respected the conventions each school and teacher had established for online classes. In the hybrid mode, remotely participating researchers were occasionally unable to hinder a teacher from seeing students' answers while s/he was trying to help them with technical problems.

Lessons learned

To summarise the lessons learned from conducting the school-based online survey in various modes, we stress the three **Cs** of **Communication**, **Consent**, and **Classroom**.

- Thorough **communication** between the researchers and the key school staff members is essential to fieldwork success. Detailed guidelines for action provided by the researchers help to even out the variety of school cultures that otherwise have a substantial influence on research.

- Researchers should apply a context-sensitive ethical approach in dealing with the active versus passive parental **consent** dilemma and respect children's rights and agency.

- Compared to the online and hybrid survey modes, the in-**classroom** mode increases participation rate, reduces the mediating role of school and the influence of school culture, and mitigates ethical challenges related to children's online privacy.

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Chapter 14
Final words on evaluation and ethics

Sirkku Kotilainen and Niamh Ní Bhroin

Evaluation of research is about discussing the soundness as robustness of the study, especially in the case of mixed methods. Evaluation should be in mind already in the starting phase of the research since selected ways of evaluation are depending on the whole process of the study starting from the aims and questions through methods to findings. Researchers can apply different kinds of tools and techniques for evaluation of the study. Moreover, evaluation includes research ethics. It is worth thinking about that as well from the beginning of the study, in the stage of making the research plan.

Methodological case studies in this publication have been reflective descriptions on multiple topics. In that sense, authors have evaluated the mixed methods implementations mostly from the perspective of their robustness including validities of making the study. For example, Maarit Jaakkola (chapter 5 in this volume) is focusing on the "didactics of a successful individual interview". She is highlighting strategies of exemplification, visualization, and playfulness for guaranteeing the successful interview process with young children. "Playful techniques" are suggested by Lamprini Chartofylaka, Pinelopi Troullinou and Antoine Delcroix (chapter 4) as well. Laure Lu Chen and Nirmala Rao (chapter 3) highlight, among several other things, the differences "in the abilities of collaborators in drawing conclusions from our findings". This reminds us about the users of our studies and how important it is to make findings not only robust but understandable as well. Additionally, it leads to thinking about how to make good enough?

Heidi Hartikainen, Afsaneh Razi and Pamela Wisniewski (chapter 6) highlight a valid and robust process of the study as "code for relevancy and use an iterative process for selecting keywords to search". They identified challenges in making research with children and youth on sensitive themes, in collecting and analysing digital data.

Authors focus on mixed methods itself in guaranteeing good research as well. For example, Michaela Lebedikova, Michal Tkaczyk, Jana Blahosova, Steriani Elavsky and David Smahel (chapter 2) describe their mixed method study combining "the self-reported data with objective smartphone data logs and screenshot collections". Mixed methods were applied in using an app in the study focusing youth usage of

smartphones from the perspective of their well-being. Even digital technologies-based methods face technical challenges, still they suggest going further into machine learning based solutions in collecting and analysing data because of making more accurate, better anonymized, and real-time classified studies.

Developing ethical protocols for digital research

The contributions in the section titled as "Ethical Aspects on studying Children and Youth as users Online" present protocols considered and developed by the authors to support the design and development of ethical research. All of the authors call for contextual sensitivity and flexible approaches. Kruakae Pothong and Sonia Livingstone (chapter 11) for example were mindful of the need to limit the duration of online consultation and to allow for more spontaneous and flexible approaches to group formation in interview contexts. They also turned off the chat function during interviews and only used break-out rooms when they had the resources to moderate these. Christian Ilbury (chapter 12) reminds us of researchers duty of care to young participants, and reports on his use of the technical affordances of social media applications, such as 'screenshot notification' to remind research participants of the presence of the researcher. This, Ilbury argues, is particularly relevant in contexts where young participants might reveal potentially sensitive information. Ilbury also calls for a reflective approach to sampling and analysis and submits that children and young people could be involved in reviewing data collected about them to consider whether or not it should be included for further analysis. Veronika Kalmus, Signe Opermann and Mari-Liis Tikerperi (chapter 13) highlight the importance of the three 'Cs' of planning for the research context, namely 'Communication' about the research with relevant parties, considering how to appropriately secure informed 'Consent', and considering the differences between engaging in research in physical, hybrid and digital 'Classroom' contexts.

Taken together, these contributions highlight some of the ethical dilemmas which arise when engaging in digital research with children and young people. The authors share the lessons they have learned, and protocols they have developed, to support securing informed consent, and facilitating meaningful participation and engagement in a range of research contexts. The contributions reflect the need to plan for engagement with children and young people in digital environments, and to consider ways to ensure meaningful and informed participation that reflect the changing experiences and expectations of research participants. In particular, the importance of considering the socio-technical contexts of these environments, including chat

functions, break-out rooms, and the potential for affordances such as screenshot notifications are highlighted. The need to consider and further develop digital research protocols that take account of these factors are also emphasized.

The CO:RE Compass for Research Ethics[5] is a resource base which is designed to support researchers and students who intend to engage in research with children and young people in digital and online contexts. The short articles contained in this section will be accessible from the research base. The compass also includes blog posts, webinars and FAQs that address these and similar issues, while also linking to further resources including research ethical guidelines, reports, and articles.

The CO:RE Methods Toolkit[6] is a resource for mixed methods in studying children and youth in digital environments. This case study collection is a part of the Toolkit which in turn, is a resource for researchers and students in building sustainable research settings and conducting meaningful research with children in digital environments for increasing soundness, goodness, robustness, and practicality in research.

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[5] www.core-evidence.eu/compass-for-research-ethics
[6] www.core-evidence.eu/methods-toolkit