

# Smartphones and online search: shifting frames in the everyday life of young people

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## Abstract

**Purpose** – The purpose of this paper is to investigate the role of smartphones among young people in everyday life, focusing on the activity of online search. This paper addresses the following research questions: What framings of the smartphone can be identified in the way that young people use, and describe, smartphones? What is the role of online search within these framings? By elucidating framings of the smartphone, this paper also seeks to discuss why and how smartphone use becomes contested in various contexts and situations.

**Design/methodology/approach** – The material has been produced through ethnographic fieldwork. Focus groups and observations have been carried out with teenagers, age 13–16 years, in three schools in Sweden. In total, 39 pupils participated in the focus groups. Interviews, classroom observations and go-alongs have also been performed.

**Findings** – In this study, three framings of the smartphone are identified: the entertainment framing, the easy-access framing and the challenging co-presence framing. The framings highlight the way that both the smartphone and online search is viewed, and carried out, in various situations. The smartphone is primarily viewed as a tool for entertainment, by adults and young people alike, yet the findings illustrate that the smartphone is used for more activates than what is immediately apparent.

**Research limitations/implications** – This study contributes to the field interested in bridging the gap between in-school teachings of information literacies and out-of-school activities by showing how online search happens in various situations. Also, to the field concerned with people's use of general web search engines in everyday life.

**Originality/value** – This paper explores the relation between online search and smartphones, a topic which has not been in focus in previous research. The topics of online search and smartphone use have primarily been researched separately but are here researched in conjunction.

**Keywords** Google, Goffman, Ethnography, Young people, Search engine, Mobile devices

**Paper type** Research paper

## Between enabling and disturbing: smartphones and shifting frames in everyday life

The omnipresence of mobile devices and the use of search engines is characteristic of contemporary society. In short, we live in a culture of search (Hillis *et al.*, 2013), where being able to find information online anytime, anywhere and about any topic is the new norm (Haider and Sundin, 2019; Halavais, 2018). The smartphone has been described as enabling



internet access on the go and thereby “facilitat[ing] an ‘always at hand’ gateway to information and the possibility to seek answers in real time” (Stoilova *et al.*, 2020, p. 137). Statistics show that nearly 100% of Swedish teenagers (age 13–16 years old) have their own smartphone, and a majority of them use their smartphones daily for a number of online activities, such as social media, listening to music and watching clips (Eriksson, 2021). Notably, the statistics do not reveal any information about the frequency of use of general-purpose search engines, such as Google Search. With that being said, the use of the app YouTube, which can be considered a combination of social media and search engine, is described as a daily occurrence for most Swedish teenagers. This indicates that online search is part of young people’s daily activities, which has also been noted by previous research (Davies, 2018; Kodama *et al.*, 2017; Rutter, 2017; Sundin *et al.*, 2017). Previous research has highlighted the prevalent use of smartphones by young people (Griffioen *et al.*, 2021; Ott, 2017; Stoilova *et al.*, 2020) and how they search online (Bilal and Gwizdka, 2018; Morrison and Barton, 2018; Rutter *et al.*, 2014). Yet little is known about the situations in which smartphones are used for searching, as the topics have mostly been researched separately rather than in conjunction. This paper seeks to address that gap by investigating the role of smartphones in everyday situations among young people. Such situations include: in the classroom and around the dinner table. Focusing specifically on the role of search in relation to smartphone use.

Previous research has shown the benefits of using Erving Goffman’s (1974) concept of frame analysis as a lens for the study of young people’s online searching. In particular, the concept has provided a means for unpacking multiple meanings attached to the concept of search and how different aspects give meaning to the activity (Andersson a, 2017; Sjöberg, 2018). Therefore, this study draws on frame analysis and is guided by the following research questions:

*RQ1.* What framings of the smartphone can be identified in the way that young people use and describe smartphones?

*RQ2.* What is the role of online search within these framings?

Writing from the field of information studies, online search denotes the use of general-purpose search engines, such as Google Search or Bing (Haider and Sundin, 2019). Here, the term is used in a broad sense and includes searching on YouTube and social media. The study explores the topic through an ethnographic approach where fieldwork has been done in three schools in Sweden. Sweden is an interesting setting for such an investigation as smartphone penetration among teenagers is high and pupils enjoy a high degree of independence within the school system; there are, for example, no overarching bans on the use of smartphones (Ott, 2017).

### Previous research

#### *Smartphones and online search in society*

This study focuses on smartphones and online search in everyday life. From such a vantage point, attention is turned to habits, routines and that which is taken for granted. Within research on everyday life, it is often referred to as that which is mundane (Ehm *et al.*, 2016; Morris and Murray, 2018; Scott, 2009). The mundaneness of activities and objects allow them to fade into the background and, to a certain extent, become invisible. Within information studies, online search has been identified as just that, a mundane, everyday activity that has become invisible (Andersen, 2018; Haider and Sundin, 2019). This development, where online search has become mundane, is enmeshed with the spread of

mobile devices which has spurred the accessibility of online search, beyond bounded settings (such as the library). In a similar vein, apps, and the software that they contain, have come to be referred to as mundane (Morris and Murray, 2018). These parallel trajectories underscore the key role played by mobile devices and online search in everyday life. This can be exemplified by statistics from Sweden that show that in 2010, 12% of 15-year-olds in Sweden used their mobile phone to access the internet. By 2018, this number had risen to almost 100% (Swedish Media Council, 2019). During this change, smartphones, and online search, have come to be a taken for granted part of everyday life. Still, smartphone use among young people does not necessarily replace other technologies, instead various technologies are used in conjunction, as collective tools (Dirmdorfer Anderson, 2013). The smartphone then becomes part of a set of technological devices within multi-device homes (Stoilova *et al.*, 2020). This suggests that devices might be used for different purposes. This is also reflected in statistics on access to devices. In Sweden, beyond owning smartphones, 80% of teenagers have their own computer, and 55% have a tablet (Andersson, 2019). These figures are similar to statistics from the USA and other countries in the EU in terms of ownership among young people. For example, statistics from the USA shows that 88% of 13- to 18-year-olds own their own smartphone, 64% own a computer and 36% own a tablet (Anderson and Jiang, 2018; Rideout *et al.*, 2022; Stoilova *et al.*, 2020). The high ownership rates of smartphones, among young people, is indicative of its importance in their everyday life. In Sweden, the smartphone has become a device that integral for many everyday activities, such as commuting. It is common to use apps for purchasing tickets to public transport. Furthermore, with a certain app on your smartphone ([www.bankid.com/en](http://www.bankid.com/en)), it is possible to identify yourself in relation to online websites of health-care providers, government agencies and banks.

Smartphones are set apart from other mobile devices as their materiality allow them to travel with, in this case, young people most places (Fortunati, 2014). Smartphones are also easy to use in many situations and places, unlike laptops; “one rarely pulls out a laptop while waiting for the bus to kill time with a casual game, or at the grocery store to check the shared shopping list” (Morris and Murray, 2018, p. 9). Another feature that sets the smartphone apart from other devices is the small screen. The size of the screen makes it more challenging to share it with others; it is a device that is primarily suitable for individual use. This also leads to conflicts as people use their smartphones in ways that turn communal activities into individualised ones, such as during a shared meal (Cahir and Lloyd, 2015). The individualised use is also an aspect that has led to heightened parental anxiety as smartphones further the rise of “bedroom culture” which is characterised by personalised and privatised use of devices (Stoilova *et al.*, 2020, p. 135). In relation to widespread smartphone use and its effect on social interaction, the concept phubbing has emerged. Phubbing refers to ignoring someone in front of you in favour of interacting with one’s smartphone. The word is a combination of the words phone and snubbing (Chotpitayasunondh and Douglas, 2016).

Through its materiality, the smartphone can be used for searching almost anywhere. This reduces the need to look up information ahead of times, as has been in shown among young people in Denmark (Bertel, 2013). Still, smartphones are not necessarily used anytime and anyplace, as the device travels with people across settings guided by different norms (Lomborg, 2015; Scott, 2009), and people might actively refrain from searching in the presence of others because of social code (Haider, 2017). This can also be understood in terms affordances which captures the interplay between the materiality of the device and people’s perception of it, which influences how a device is used (Leonardi, 2017).

*Smartphones and online search in the classroom*

At the same time as smartphones and internet has become widely available in Sweden, they have also moved into classrooms. Yet, this has not been on initiative from schools but instead reflects “the conduct of students’ everyday lives, in which mobile phones have become more and more central” (Ott, 2017, p. 18). The way that smartphones are easily used throughout various activities in everyday life has sparked public discussions regarding how and when they should be used. Regarding young people’s free time such discussions have been targeted towards problematic use and excessive screen time (Livingstone *et al.*, 2017; Stoilova *et al.*, 2020). In relation to the educational setting, struggles in the classroom have been identified and whether smartphones enable or constrain learning has been in focus (David *et al.*, 2015; Dinsmore, 2019; Merchant, 2012; Ott, 2017). These controversies highlight the fact that the smartphone is a cultural object that is “continuously infused with meaning as it is used and inextricably interwoven in the practice of everyday life” (Lomborg, 2015, p. 35). In line with the range of activities possible to do with digital devices, the concept of screen time has been identified as lacking in descriptive and explaining power, as the way that screens are used, and the consequences thereof, are not homogenous (Griffioen *et al.*, 2021).

Within the Swedish school system, changes in teaching methods have taken place, a transition from teacher-directed instruction to pupil-centred learning methods. With this follows that pupils engage in more independent search for information through computers (Alexandersson and Limberg, 2012; Grönlund, 2014; Lundh, 2011). The access to computers has become widespread, as many Swedish schools have worked toward the goal of “one-to-one”: one computer for every pupil (Grönlund, 2014; Internetstiftelsen, 2019). Young people demonstrate a high level of trust in search engines, and search engines are an important part of the educational infrastructure (Davies, 2018; Kodama *et al.*, 2017; Sundin and Carlsson, 2016). Beyond Google Search, YouTube has been identified as an important search engine among young people. YouTube can be described as a combination of search engine and social media. The platform enables users to search for, and watch, videos. The platform contains social media features, such as the possibility to like, dislike, share and comment videos. It is also possible to subscribe to users’ channels. The use of YouTube is part of young people’s daily routines, and it is used for searching for a range of topics, from personal interests to educative use (Pires *et al.*, 2019).

As mobile devices and online activities, such as online search, have come to permeate many aspects of everyday life, research is highlighting the need for various forms of literacies, such as algorithmic awareness (Gran *et al.*, 2020), infrastructural meaning making (Haider and Sundin, 2019) and data literacy (Lomborg and Kapsch, 2019; Pangrazio and Selwyn, 2019). Such research points towards the need to move beyond functional skills and address the invisible workings of algorithms and the way that they shape what information that is found when searching. This has also attracted specific attention in relation to young people (Buckingham, 2015; Pangrazio and Selwyn, 2020). At the same time, it has been shown to be difficult to translate information literacies learned in school to other areas of life (Haider and Sundin, 2020). To be able to teach, as well as develop strategies for teaching, young people a critical stance towards algorithms in general and search engines in particular, knowledge is needed about the situations wherein online search happens. This paper contributes with such an empirical exploration.

**Theoretical and analytical approach**

I draw on the concept of frame analysis to analyse the way that smartphones and online search are assigned meaning. Frame analysis refers to Goffman’s (1974) seminal work.

Frame analysis focuses on the question of what it is that is going on in various situations. It highlights the way that situations are made understandable by drawing on previous experience, norms in various institutions and agreed upon ways of doing things (Goffman, 1974). Goffman writes in a dramaturgical tradition where performance is a key concept (Goffman, 1959). People perform different roles in their everyday lives. For the young people in this study, roles might include that of a child in a household and that of a pupil in school. The framing of a situation not only defines the situation but also how one is to act within the situation. Importantly, frames are not static but can change and then the meaning of an activity also changes (Persson, 2019). An activity can thereby be framed in different ways depending on factors such as who is involved and where it takes place. Institutions, such as schools, and social structure affect the framing of situations and relate to the question of who defines a situation (Bunting and Lindström, 2013). Jacobsen and Kristiansen (2015) argue that “only respected or powerful people may be successful in changing the frame” (p. 126). This has consequences for the present study, as adults, be it teachers or parents, typically hold more power than young people (Goffman, 1974). Frames are, thus, guided by individual experience as well as norms in various social situations (Goffman, 1974; Persson, 2019; Sjöberg, 2018).

Drawing on frame analysis, Sjöberg (2018) analysed how different types of framing affect children’s perception of credibility and showed that a range of aspects play a role in young people’s framing. Sjöberg, therefore, argues that when young people search for information, it is not about facts but about framing. By analysing young people’s framing of Google Search, Andersson (2017) showed how the search engine was assigned different meaning depending on context which also had bearing on how search results were evaluated.

In the analysis, I draw on developments of frame analysis that bring objects and sociomateriality into focus (Cress, 2015; Hafermalz *et al.*, 2016). Cress (2015) applies frame analysis to an object-oriented ethnography and identifies several aspects that take part in framing objects. An important starting point for this perspective is that “things do not have stable meanings once and for all. Instead, their meanings change in relation to their situational context” (Cress, 2015, p. 384). The things in focus here are then smartphones. Cress (2015) argues that the physical nature of objects gives people an indication of how they may be used and the roles they may play in different situations. As such, “a frame is inherent in the physical nature of an object” (Cress, 2015, p. 385). It is possible to identify an overlap between Cress’s perspective, as I understand it, and the concept of affordance, as brought forth in relation to sociomaterial theory (Erofeeva, 2019; Leonardi, 2017). For example, Leonardi (2017) puts forth that “people have perceptions, artifacts have materiality, and affordances or constraints are created when people construct perceptions of an artifact’s materiality” (p. 285). This refers to the way that physical properties of the digital devices exist independent of people, but the affordances and framings do not. Both concepts also refer to what objects affords as well as constraint which is embedded in the contexts in which they are used. This theoretical lens thereby enables an analysis of how smartphones, and use thereof, is defined in various situations.

## Method and material

The material for this paper was produced through ethnographic fieldwork between 2014 and 2016, as part of a dissertation project. Several methods were used during fieldwork: focus groups, classroom observations, go-alongs and interviews. Thus, the material consists of transcripts from focus groups and interviews, as well as fieldnotes from observations and go-alongs. An ethnographic approach was chosen as the overarching aim of the project was

to investigate the role of online search and mobile devices in the everyday life of young people. The methods used enabled a combination of observing use of smartphones and the activity of online search, as well as talking to participants about their actions. Combining observation with interviews is common practice within ethnographic work (Hammersley and Atkinson, 2019; Livingstone and Sefton-Green, 2016). It provides the researcher with insights of differences between talk and action, as well as insights into how participants view their actions. Previous studies from the ethnographic project have addressed online search from different perspectives (see NN). Different parts of the material have been in focus within the published articles. Here, all the material is analysed anew with particular attention to smartphones and the relation to online search. Importantly, the perspective of smartphones and online search has not previously been analysed within the material, although the relation between online traces of search and mobile devices has been analysed.

Fieldwork was done in three different schools, A, B and C:

School A: an independent school located in a mid-sized town. The pupils all had their own school laptops that they could bring home and were designated for the pupil's sole use while attending the school. At the time of the study, approximately 85% of the pupils were native Swedes and 15% were either born in another country than Sweden or born in Sweden, but their parents came from another country approximately 80% of parents have university education,

School B: a public school located in a suburban area. The pupils had access to laptops through their school but did not have their own designated laptops. At the time of the study, approximately 90% of the pupils were native Swedes and 10% were either born in another country than Sweden or born in Sweden, but their parents came from another country. In all, 70% of parents have a university education.

School C: a public school located in a suburban area. The school had some laptops but not enough for all pupils at once. At the time of the study, approximately 85% of the pupils were native Swedes and 15% were either born in another country than Sweden or born in Sweden, but their parents came from another country. In all, 55% of parents have a university education.

The schools were contacted through contact with a network for headmasters. Once three schools had accepted to participate, recruitment stopped. Socioeconomic factors were not considered in the recruitment process. All schools that agreed to participate happened to be in middle to high income areas. All participants who took part in the interviews and go-alongs were native Swedes, except for one. This was not an active choice, but it turned out this way based on who volunteered to participate in interviews after the focus groups. I did not gather data on ethnicity during the focus groups. This information is given to provide readers with knowledge about the circumstances of the study. Still, it is worth mentioning that I do not analyse my material in relation to socioeconomic indicators.

Focus groups were carried out in all three schools, and interviews and classroom observations were conducted in Schools A and B. The participants were 13–16 years of age and attending Year 7–9 in the Swedish school system.

Research was carried out in accordance with ethical research guidelines (Swedish Research Council, 2017). All participants volunteered to be part of the project and were also informed of what the project entailed and that they may stop participating at any point. Before participation in the project, approval was sought from their guardians. The schools and participants have been anonymised in the material.



*Focus groups, interviews and classroom observations*

A total of six focus groups were carried out, with 39 participants. The focus groups were divided according to which year of school the participants were in, as depicted in [Table 1](#).

All groups consisted of classmates attending Year 7–9. Each focus group lasted between 32 and 73 mins with four to ten participants each. The focus groups were semi-structured ([Davies, 2008](#)), and all followed an interview guide. Three themes guided the discussion:

- (1) online search on a general level;
- (2) the use of digital tools in school and at home; and
- (3) doing research for a specific task in school.

Focus groups were conducted to achieve discussion among participants, through which their conceptions of the various themes would surface ([Kamberelis and Dimitriadis, 2011](#)). This also makes it a suitable method for exploring framings as focus groups have the potential of exploring shared understandings within a group. I acted as moderator for the groups. I recorded and transcribed all material from the focus groups. During one focus group, there was a problem with the recording and the discussion has not been transcribed but instead notes were taken during and immediately following the discussion.

A total of 17 interviews were conducted, with nine participants. Two participants were interviewed on more than one occasion. Four of them went to School B and five went to School A. All interviews were carried out in the respective schools, some during school and others after the school day had finished. The interviews were semi-structured and all included questions regarding the participants' use of mobile devices in and outside of school. We also discussed their home environment, their everyday routines and use of technology were explored (see also NN for further information). During the interviews, the participants brought out their smartphones and we discussed what apps they use. Before interviews, I would spend a day at school with my interviewees, attending classes and spending lunch and recess breaks with them. This method was inspired by go-along and shadowing ([Czarniawska, 2007](#); [Kusenbach, 2016](#)). Go-along is described as “a hybrid between participant observation and interviewing” ([Kusenbach, 2016](#), p. 154). Shadowing refers to observing people and following them, as they carry out their daily activities ([Czarniawska, 2007](#)). This allowed for more informal conversations and gave context to the interviews. It is not possible to draw a distinct line between the go-along method and classroom observations as the go-alongs led me to the different classrooms. I thereby did not choose specific topics, such as social studies. Instead, the go-alongs led me to, and between, class rooms. During the combined go-alongs and observations, I would make fieldnotes when we were in the classroom but not when we were on the move. At the end of the day, I would write down my notes from the go-alongs as fieldnotes. The combination of interviews, go-along and classroom observations allowed me to observe how smartphones were used during the day, as well as how online search happened. It was also possible to hear teachers talk of smartphones.

**Table 1.**Oveview of focus  
groups, divided by  
school

Method	School A	School B	School C
Focus groups	Year 7 and 9	Year 7 (two groups)	Year 8 (two groups)

*Analysis*

The identification of different framings has been a process of close, and repeated, readings of my material. In this process, I have looked for patterns and common themes, as well as contradicting perspectives (Davies, 2008; Hammersley and Atkinson, 2019). When searching for patterns, I have looked at the entire data set rather than attempting to do comparisons between the schools, although in my findings, I report the differences that I encountered within the themes as they relate to specific schools. As is often the case with qualitative research, the analysis progressed and became more focused with repeated readings (Hammersley and Atkinson, 2019). In approaching my material, I asked questions such as when is the smartphone used? How is it used? How do my participants describe their smartphones? When do they search, and not search, on their smartphones? The coding of the material progressed from many smaller sub-categories, such as multi-tasking with devices, the smartphone in the classroom, rules at home, laptops in the classroom and so on, to identify overarching frames pertaining to the smartphone. Three framings were identified in connection with smartphones: entertainment, easy access and challenging co-presence. In line with the ethnographic approach taken within the study, my findings will be presented interweaved with my analysis and discussion. Quotes are used as examples to illustrate each frame and, subsequently, should be read as a representation of that cluster of material. The frames will be described and discussed separately. However, as I will show, they coexist and overlap (Sjöberg, 2018).

*Limitations.* While the material, and subsequent analysis thereof, provide valuable insights into the use of smartphones in everyday life and their relation to online search, there are some limitations that should be recognised. Foremost, the fact that five years has passed since fieldwork ended. During that time, smartphones have continued to increase in importance. Not least, the Covid-19 pandemic has spurred the need to work out digital solutions for pupils. Still, the question of how smartphones may be used in school continues to be contentious and attracts political discussions. Another limitation of the study is the homogenous school representation. It would be worthwhile to do a follow up study to explore any change in the way that smartphones are used, with a broader sample of participating school.

**Findings***Smartphones and the entertainment framing*

In my participant's accounts of their smartphone use, its near-constant presence is apparent. Where my participants travel, their smartphones travel. The affordances of the smartphone mean that it enables a wide range of activities. Smartphones are used for social media apps, gaming, checking emails and searching. Notably, the smartphone as a device for entertainment is the dominant or primary framing among my participants. The smartphone as a device for searching is downplayed within the entertainment framing. Still, this does not mean that searching does not occur but rather that it has been made invisible. One explanation for this invisibility is the close-knit association between Google Search and the activity of searching. In relation to online search in daily life, one participant puts it this way: "It [Google] is the first thing I think about but then when I think about it deeper, I notice that I search more than just Google". Within the entertainment framing, social media sites such as YouTube and Instagram are used as search engines:

Researcher: What do you do on YouTube?

Interviewee: What's it called, search for celebrities.



Researcher: Search for celebrities.

Interviewee: But I like most celebrities, like Miley Cyrus, Justin Bieber. Well, I don't like them, I like his music.

The accounts above do not surface in relation to questions of where and how my participants search but in relation to their descriptions of using various social media apps, which also enable searching.

This way of using YouTube resonates with findings from [Pires \*et al.\* \(2019\)](#) among the teenagers in their study. While YouTube can be argued to be the main search engine among young people ([Pires \*et al.\*, 2019](#)), young people do not necessarily conceptualise the activity as searching. My participants are more aware of using different apps on their smartphones than they are of searching on these apps.

Searching on the microblogging and social networking site, Tumblr, also surfaces in my material. One participant explains searching on Tumblr, over Google Search, because Tumblr has “a particular style”. Another says that she prefers searching on Instagram over YouTube because of the length of the clips: “There [on Instagram] you can kind of find small snippets. I don't like to watch movies and such”. So, by using social media platforms as search engines, it is easier to access certain genres that are associated with their interests than it is on Google Search. As expressed by one participant, “I would turn to Google if I really had a problem but if I want like fun DIY videos, I would turn to YouTube”. Here, the interviewee is talking about sewing, which is the participant's hobby. The interviewee is describing the difference between searching to solve a problem related to sewing or searching for inspiration, also noting that it is easier to find creative content on sites such as the image sharing platform Pinterest over Google Search.

Using the smartphone for this type of entertainment is not defined by physical location. However, during the group interview, the participants make a distinction between using social media *in* school and *for* school: “we might use it [social media] for school to ask a friend for help or something like that but it's not like it's used for school in that we search for something and get real facts”. On the other hand, there are numerous examples of social media being used for finding, what I perceive to be, factual content within my material. Yet, these ways of using social media are not typically referred to – framed – as fact-finding, unlike searching on Google. Examples are given of using YouTube for finding math tutorials and for finding information about the Cold War. Another participant says that “I've watched documentaries about World War II”. YouTube surfaces as a site for entertainment at first glance but this is not consistently so. There is also a connection being made between the textual genre and facts ([Gårdén \*et al.\*, 2014](#)), as expressed in the following excerpt:

Researcher: But can you search for something that isn't facts?

Interviewee 1: Then it's mostly images if you want to see something

Interviewee 2: Mostly images

Images not being considered factual has also been identified within previous research ([Lundh and Limberg, 2012](#)). In relation to searching for images, my findings point towards my participants viewing more image-based results than they would textual results. One reason being that they search for images for creative purposes, such as in relation to hobbies.

It is not only the young people in the study who frame smartphones as devices for entertainment. This is also done by teachers. For example, one teacher starts her class by

encouraging the pupils to “put away your phone and other fun things”. This way of referring to smartphones reinforces the framing of smartphones as tools for entertainment. At the same time, smartphones are used for other purposes in the classroom. For instance, as calculators during math class. When asked about the role of smartphones in the classroom, the common denominator in my material is that smartphones are allowed if they are used for school-related purposes. This resembles what [Dinsmore \(2019\)](#) refers to as differentiation strategies, wherein some uses of mobile technology are described as residing within the educational sphere: “namely uses that were teacher-directed and controlled” (p. 672). All the while, it is a common sight to see smartphones laying on the tables in the classroom. One participant explains why she puts her phone on the table in the classroom:

Then it’s because I don’t really have anywhere to put it because it doesn’t fit into my back pocket and I don’t always have a bag with me. Also, it’s fiddly to keep putting it away and taking it out because sometimes during maths I might use it as a calculator.

[Cress \(2015\)](#) argues that “a limitation of the ambiguity of things takes place through their involvement into situational contexts” (p. 394). In the classroom, the ambiguity of the smartphone is limited when it is used, for example, as a calculator. When this limited ambiguity is shared between teacher and pupil, the smartphone temporarily becomes a legitimate educational tool. Yet the shift between an educational tool and a device for entertainment can happen swiftly. During one observation, in math class, the pupils were asked to put away their smartphones after using them as calculators. Some were not as quick as others in doing so and the teacher explains: “the phone is distracting you so put it away”. When no longer considered a calculator, the smartphone is referred to as a distraction, in alignment with the entertainment framing.

A challenge when it comes to the limiting of ambiguity, in relation to smartphones, is that it can be difficult to see, from afar, what someone is doing with a mobile. As one participant notes: “It happens that people play games on their phones and then the teacher discovers it and might say that they will take it away. Then the person might say that they are just taking notes”. This is a quite common occurrence, present in my interviews as well as during my observations. These situations draw attention to the question of what it is that is going on. In the words of [Goffman \(1974\)](#), the teacher frames the activity as gaming, whereas the pupil is trying to frame the use of the smartphone in another way. Here, the question of power and framing is drawn to the fore ([Jacobsen and Kristiansen, 2015](#)). In the classroom, I would argue, the teacher has more power to define the meaning of devices.

However, pupils who manage their schoolwork well are also, to a certain extent, in a situation of power. At least, in comparison with pupils who fall behind or are not as good at hiding their illegitimate smartphone activities, as described the following way by one participant:

It’s not like there are strong punishments for it [playing games]. But if you do it constantly or do it in a way so that the teachers notice but you still manage your schoolwork then it’s like. [. . .] Then it’s more ok than a person who only sits with their phone.

The entertainment framing of the smartphone seems to be what causes it to be viewed as a distraction in the classroom. At the same time, certain ways of using the smartphone that would seem to be entertainment are acceptable, namely listening to music: “When I’m in school and working, sometimes I think it’s too loud so I might put on headphones and listen to music”. Here, something that could be considered entertainment contributes to focus rather than distraction, illustrating the cultural significance of framing.

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*Smartphones and easy access framing*

Above, it was sketched how smartphones are primarily framed as tools for entertainment. The easy access framing, on the other hand, identifies how and why the smartphone is still immersed into various situations. Here, the connection between the smartphone and other devices, as well as the materiality and affordances of the smartphones, is brought forth. As one participant says: “I mean, usually it takes longer to start a computer in order to search for something than just taking out your phone and writing”. In a similar vein, another participant explains that “During the day I might use it [the smartphone] if there aren’t enough computers—then it’s good for searching online”. In one of the focus groups, the participants describe the way that smartphones enter the scene when there is a need to find answers to certain questions:

Participant 1: Like if I need to search for something then it takes longer to start the computer than to search on my phone. And we listen to music sometimes.

Participant 2: And to take photos of the whiteboard if you’re too lazy to write everything down.

Participant 1: Which happens quite a lot

[...]

Participant 3: Half the class is standing there taking pictures (Several participants laugh)

Leonardi (2017) argues that it is usually not the materials themselves that limit the way that people use them but that “it is the agency of the software routines that are built on those materials that are” (p. 281). The role of software routines in limiting the way that people make use of certain devices comes through in my material. Or rather, the software of the smartphone makes it a first-hand choice over, for example a laptop, in certain situations. This is an important aspect in relation to the easy access framing, wherein speed and easy availability are defining characteristics:

Interviewee: I use it [the smartphone] because it’s always on.

Researcher: Ok.

Interviewee: So it’s like, I just take it and search.

The framing is thereby also underpinned by internet access. In relation to the entertainment framing, searching is related mostly to various social media platforms. Within the easy access framing, focus is instead on facts, Google Search and being able to check information on their learning portals: “The mobile is more if I want to look something up quickly, like the learning portal, and I can’t be bothered to take out my laptop and log on”. Looking for information relating to learning portals was something Bertel (2013) also identified among her participants. Referring to search in terms of facts occurs primarily in relation to school-related searches: “In social studies we look up facts on the mobile quite often, also in natural sciences”. These types of searches are described as quite straightforward:

The thing is, when I search for something for school then I usually know what I should search for. Like, atom, molecular number, or what is molecular number. But when I search for something in my free time, then I’m not always sure how I should search so sometimes I might ask a question to Google.

When talking about these types of searches, there are no mentions, among my participants, of critical assessment of sources or similar aspects, which differs from previous research on school assignments where finding a school-appropriate source has been shown to be of importance (Andersson, 2017; Francke *et al.*, 2011). Image searching also happens within the easy access framing. For example, during one of my observations, we talk about the school menu for the week, noting that it described as Brazilian. Some of my participants and I talk about what such food might be, and then one participant exclaims: “Ah, now I have to search for this”. She then takes out her smartphone and goes to Google Image Search and types in Brazilian food. These ways of searching can, to a large extent, be captured under the term lookups, as described by Marchionni (2006).

A distinguishing feature of the smartphone is that it is viewed as always on. Yet when talking about smartphone use, online search is hardly present. One participant’s spontaneous reaction to whether or not she uses her phone to search is a solid “no, actually not” but as our conversation continues, she changes her mind “well actually, it’s more if I need something, like a phone case or clothes and such. It’s very convenient to just grab the phone”. Through this way of searching and that of facts, Google Search comes into the picture. Also, a connection between the search engine and the software routines of the smartphone surface:

Participant 1: I mean, Google is the default setting on the phone.

Participant 2: That’s the point with Google, the corporation is so big, they have email, calendar.

Participant 3: So everything. They have their own phones for writing. If you have an Android then you’re stuck.

Participant 2: Everything you do is associated with Google because they do so much.

These ways of using the smartphone echo descriptions from Stoilova *et al.* (2020, p. 136) of smartphones as “always at hand”. An “easy access” framing was also identified by Sjöberg (2018, p. 132) when analysing online information-seeking tactics among young people. Within the easy access framing, Sjöberg (2018) identifies that “children today live in a high-speed culture: a culture in which easy access framing becomes a must. During the interviews, the children talked about the necessity of accessing desired information whenever they want to” (p. 132). While Sjöberg’s framing focused on online information-seeking and not devices, the two framings intersect in an identification of the expectation of instant availability of information – here made possible through a smartphone.

To a certain extent, the smartphone acts as a stand-in for a laptop or desktop computer, which is described as preferable when it comes to searching. Issues associated with searching on the smartphone include that “it’s hard to read on it” and that the smartphone “is more complicated”. In turn, a laptop is preferred because of the size of the keyboard and screen: “yes, actually the computer is better in all ways”. One participant sums it up this way: “If you’re not at home then you can’t use your computer so you use your mobile and then, when you get home, you sit in front of the computer”. While the easy access frame was identified in relation to smartphones, tablets are also framed as enabling easy access: “And my iPad at home, I can search for facts too, because it’s easy. You can walk around and read”. Also, during one observation in School B, the class was answering a quiz and could choose between laptops or tablets. All of them chose tablets and I asked why: “it’s quicker to use because they are not turned off like the laptops are”. The software routines,

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coupled with their size, makes tablets convenient. Writing on sociomateriality and affordance, [Erofeeva \(2019\)](#) argues that “in order to assess the relevance of objects, we need to conceptualise their relations to other objects present in a situation” (p. 601). This becomes evident here, where smartphones and tablets are discussed in relation to other available devices. In the study, the participants who define themselves as gamers describe their computers as their primary device when at home, while other participants do not make the same distinction. As exemplified in this focus group discussion on use of devices:

Participant 1: Mostly computers for us [gamers].

Participant 2: I use my mobile more.

Participant 3: It depends. Those who are like gamers usually sit in front of the computer and use it for more stuff.

[...]

Participant 3: If I'm gaming or doing something in a game, it feels unnecessary to take out my phone.

The smartphone becomes less relevant in terms of easy access when sitting in front of the computer.

#### *Smartphones framed as challenging co-presence*

Whereas the previous framings focused on the activities that smartphones enable for the individual user, this framing captures the way that smartphones are viewed as problematic in relation to social interaction. During my observations, comments were often made if people were too involved with their phones during interactions with other people. For example, if a person continues to watch YouTube on their smartphone while someone else is trying to make conversation. A behaviour that could be labelled as phubbing ([Chotpitayasunondh and Douglas, 2016](#)). Comments on phubbing were mostly made during breaks and lunch, which are opportunities to “hang out” in school. Notably, eating was also described as a social practice where the use of a smartphone was contested in my participants' home life. For most of the participants, the smartphone is banned during the family meal. The smartphone framed as challenging co-presence emphasises the individual nature of smartphone use ([Cahir and Lloyd, 2015](#)), as its presence in social interaction and communal activities, such as eating, are instances when smartphone use is contested. In relation to the smartphone being framed as challenging co-presence, the relation to search is not immediately apparent. Typically, mobile bans are upheld in relation to abstaining from social media and gaming. The activity of searching is not mentioned as a reason for mobile bans. At the same time, online search is as an everyday habit that opens for smartphone use around the dinner table. As described by one interviewee, in relation to rules around the dinner table: “At our house you can't use your phone and such. It depends, my dad is trying to teach us table manners and how to be polite and not use our phones and such”. He then goes on to explain that “We don't use our phones around the dinner table unless my dad or mum get a call. Or if we need to search for something to settle a discussion”. The phone then enters the picture. He gives the example of searching to see which year an event occurred. The quote exemplifies the current culture of search ([Halavais, 2018](#)) and the way that searching has become mundane ([Sundin et al., 2017](#)). The fact that smartphone use is contested around the dinner table, but searching is not, points towards search being considered more of a social activity than other smartphone activities. This is

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also an example of how the challenging co-presence framing overlaps with the easy access framing. Although the smartphone is banned in certain situations, as it is viewed as challenging co-presence, the smartphone is usually nearby. This means that it is easy to bring it out and, in this case, search.

Ehn *et al.* (2016) argue that meals can be “doorways to understanding larger cultural themes like formality and informality, authority, and cultural capital, and they connect directly to issues of how morality and order are both made and violated in daily life” (p. 45). This comes through in my material, where the use of the smartphone during dinner, in many ways, boils down to an explicit focus on co-presence and paying each other respect. Scott (2009, p. 94) notes that the family meal is one of the most common rituals of social eating. The status of the family meal in Western society is ambiguous and families might struggle to eat together because of lifestyle factors (Scott, 2009). Still, Scott (2009, p. 97) notes that while there is not consensus on the status of the family dinner in contemporary Western society: “we remain committed to the values it represents”. Togetherness and social interaction being examples of such values. This also holds true for Sweden, where the family dinner is a norm that many families work towards upholding. Yet, many families might struggle to eat a hot meal together during the week. Instead, Friday evenings have become culturally significant and referred to as “fredagsmys”. The literal translation being “cosy Friday”. On Friday evenings, families typically eat something special together, tacos being many families’ meal of choice, and then socialise (Savage, 2021). “Cosy Friday” is an example of how not all meals are attached with the same value. This also comes through in material. Several interviewees explain that breakfast is not necessarily eaten together. As described by one participant, in relation to breakfast; “everyone does their own thing so no one really watches over you so can sit with the phone if you like”. The use of smartphones is not necessarily challenged during meals that are not eaten together, pointing to the social aspect of mobile bans.

The fact that people usually wear their smartphones, regardless of whether they are intended to be used, means that the devices can immerse themselves into situations in different ways, through the sound of a ping from a messaging app or the like. A difference between online search as an activity around the dinner table, and responding to a message, is that searching is usually sparked by the conversation between the people having dinner, as exemplified in the following quote: “If we disagree and have different opinions about something and want to know who’s right then we’ll definitely search for it. It’s happened a few times [laughter]”. In contrast to phubbing, searching is described as a collective activity or, at least, initiated because of a joint conversation. The interviewee goes on to explain that they might bring out a laptop “so that everyone can see and then we sit around it, because we’re eating, and then we type in and then we sit there and talk about it”. The materiality of the smartphone means that it is easy to search while sitting around the dinner table, but the screen size makes it less suitable for searching together.

In my material, the difference between ideal and reality is present, so is the difference between being an adult and being a child in a household. In one focus group, a participant describes how they are not supposed to use smartphones around the dinner table but then “dad always sits like this anyways [imitating her dad with a phone to his face]”. The discussions of how parents deal with devices around the dinner table points towards power dynamics in households, particularly between children and parents. As exemplified by the following answer when one interviewee asked how well his parents conform with the rules “yes, well. They have more important stuff. If someone calls or text them then they reply”. There are implicit assumptions being made about whose activities constitute as important. This can also be viewed in terms of who has power of framing use of devices.



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An investigation of meals and how they are carried out enables a focus on cultural reproduction: “What exactly do children learn from their early experiences of meals, and how does this lead to both change and continuity in culture?” (Ehn *et al.*, p. 45). It is possible to discern continuity, as well as change, in relation to how devices become part of family meals in the material. For instance, while smartphones are banned and viewed as challenging co-presence, the TV (and radio) is framed in a different manner:

Researcher: What’s it like at home while eating, are there any rules?

Interviewee: We eat in the kitchen or in front of the TV.

Researcher: Is the smartphone allowed?

Researcher: Not the smartphone, then it’s TV time. In the kitchen we might listen to the radio.

Notably, watching TV is a communal activity, in contrast to using a smartphone which is typically an individual activity. Watching TV together can also be viewed in terms of families finding ways of being together in a voluntary and enjoyable way. Livingstone and Sefton-Green (2016) found that limiting screen time was strived for in almost all homes in their study of young people; “to achieve this, the media, especially television, were often given a positive role in family life” (Livingstone and Sefton-Green, 2016, p. 159).

In sum, my findings show that smartphone use becomes contested when it challenges co-presence, and thereby also communality, during social interaction. Here, explored foremost through focusing on meals. There is an interplay in the framing of the situation and the smartphone; the absence of the smartphone frames the family meal as quality time, and the family meal, in turn, frames the device as a disturbance. The same can be said for other situations where co-presence is in focus. However, when the smartphone is used to settle a discussion among family members, by searching online, it is not necessarily viewed as a disturbance, or as challenging the co-presence around the dinner table, as it is used for a communal activity. It thereby appears that it is when the smartphone is used in an individualised manner, within a communal practice, that it becomes a challenge to co-presence.

### Conclusion and discussion

This study explored young people’s framing of smartphones in everyday life and the role of online search within the framings. Three framings were identified:

- (1) smartphones and entertainment framing;
- (2) smartphones and easy access framing; and
- (3) smartphones as challenging co-presence framing.

All three framings highlight mundane aspects of using smartphones, and they all point to the omnipresence of smartphones. Furthermore, these framings highlight the way that smartphones, and through them, online search is immersed in many everyday situations. The framings reveal the way that online search has been made invisible in everyday life (Haider and Sundin, 2019). This comes through in the way that searching is not necessarily mentioned in the framings but is encountered in a roundabout way, by asking questions about apps, everyday routines and rules around the dinner table. Within the entertainment framing, social media apps, such as YouTube, Tumblr and Instagram come to the fore.

Searching on social media platforms dominate over Google Search within the entertainment framing. The easy access framing illuminates the smartphones shifting role in the classroom and how the smartphone enables easy access to a search engine. In relation to easy access, the role of Google Search and quick lookups (Marchionini, 2006) surface. The challenging co-presence framing identifies the way that smartphones are viewed as a disturbance within social interaction (Chotpitayasunondh and Douglas, 2016), explored through a focus on meals. Interestingly, online search does not seem to challenge co-presence around the dinner table in the same way that social media apps do, at least not when searching is done in relation to a joint discussion. The framings reveal the value of looking beyond that which is immediately obvious, such as smartphones being used primarily for entertainment purposes. In so doing, it is possible to find how the activity of online search happens through smartphones in different contexts and situations. The identification of all three frames was made possible through the range of methods used.

In common for all three framings is that online search is described in terms of quick, factual and easy. It is a way of finding an answer in the here and now. As a result, lookup searches (Marchionini, 2006) seem to dominate. Or, at least, the searches are described as lookup searches, whether it is parents searching for the year of an event around the dinner table or one of my participants searching for the capital city in class. The searches come through as unproblematic and not something that demands reflection or critical attention paid to the results. One reason for this might be that the results of the quick searches are not necessarily used within a written assignment or the like, wherein reporting of sources is typically demanded. This poses a challenge in terms of teaching various forms of literacies; how to teach awareness in relation an activity that has been made invisible? This means that to address online search in relation to young people, a focus on everyday situations, and devices in use, is needed. All the while acknowledging that it not merely young people who live in a culture of search.

Making the workings of search engines and algorithms visible is a common denominator among concepts, such as algorithmic awareness (Gran *et al.*, 2020) and infrastructural meaning making (Haider and Sundin, 2019), thereby placing focus on how we come to see certain results over others, for example. It is beyond the scope of this article, and the methodological decisions made, to generalise results. Still, given that the statistics on smartphone ownership in Sweden mirror that of the USA, as well as several countries in the EU, these framings are most likely relevant in other countries.

In future research, it would be beneficial to address the question of what happens to evaluation of the search process, and search results, as searching happens on the go, thereby continuing to address the question of differences between searching in different contexts and how schools can make information literacies in school, relevant for out-of-school activities. In addition, addressing more in-depth if it is possible to identify which types of searches that are being done on smartphones in contrast to computers, analysing, for example, if searching on the smartphone means viewing fewer or more results.

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