

The ambiguities of surveillance as care and control

Struggles in the domestication of location-tracking applications by Danish parents

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Abstract

The implicit ambiguity of surveillance as both care and control has been a key theoretical issue in social science research on surveillance practices and technologies. This article addresses this ambiguity empirically by examining how parents using – or not using – location-tracking apps to monitor their children negotiate this tension. Drawing on 17 semistructured interviews conducted with parents in different regions of Denmark, we examine the struggles of these parents to fit this technology into their world and to reconcile their uses with ideals of trust, privacy, and good parenting. By highlighting how users and non-users perceive and negotiate the controlling affordances of tracking apps, we emphasise the potential for negotiation, contestation, and resistance raised by this technology, and the contingent nature of its appropriation and effects. Thereby, it brings nuances to technopessimistic accounts of child tracking and calls for further empirical studies examining how these technologies are experienced in practice.

Keywords: surveillance, family, location tracking, child tracking, user studies

Introduction

Digital media and technologies now permeate the daily lives of families, offering new ways for parents and children to stay connected and enabling new forms of interpersonal surveillance at a distance. In this article, we focus on parents' surveillance of their children and, more precisely, on their use of technologies to locate them. Today, parents' desire to know "where" their children are can be satisfied in different ways: from the rather banal call on the child's mobile phone to ask "where are you, who are you with, and what are you doing?" (Barron, 2017), to the use of more sophisticated devices such as GPS-enabled clothes and wristbands, or smartphone apps enabling real-time tracking. In this article, we examine the motivations of parents to use – or, conversely, not to use – location-tracking applications to monitor the whereabouts of their children.

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Since the widespread adoption of GPS-enabled smartphones, a number of family-tracking apps have been launched and commercialised. However, as revealed by a survey study conducted in the UK (Vasalou et al., 2012), the adoption of such technologies has been marginal, notably because many parents consider them incompatible with their family values. In this article, we examine the resistance to the adoption of child-tracking technologies and identify the difficulties, tensions, and conflicting desires that characterise their adoption. The overall focus of this article is therefore on the “struggles of domestication” surrounding these technologies, that is, on the dilemmas and resistances encountered by parents to fit these technologies into their world. More specifically, we propose that these struggles articulate around a tension inherent in many surveillance practices: one between care and control.

In surveillance studies, care and control have been described as two entangled interests driving practices of monitoring (Nelson & Garey, 2009); watching over children – for instance – can be meant with their protection in mind, to show them care in a context where they can flourish, but it can also – simultaneously – involve other motivations having to do with direction, proscription, and control (Lyon, 2001). The desire to know the answer to the question “where is my child?” bears that ambiguity, and the domestication of child-tracking apps involves, we argue, a constant negotiation of this tension. As such, the question that guides this article is the following: How do parents perceive and negotiate the tensions between care and control in relation to their use or non-use of child-tracking technologies?

This article is based on qualitative empirical material collected as part of the “Childhood, Intimacy and Surveillance Practices” (ChIP) project, led at the Centre for Surveillance Studies at Aarhus University, Denmark. This material was collected through 17 semistructured interviews with parents, conducted in 2017 in different regions of Denmark. Since the ChIP project did not exclusively focus on child tracking, our empirical material presents the viewpoints of users as well as non-users, who either imagined using tracking apps in the future or explicitly rejected their use. As in Vasalou and colleagues’ study (2012), the use of location-tracking apps was marginal amongst the families interviewed in our study, only three of which actively used such technologies. To date, probably because of the limited adoption of these technologies, there is a lack of qualitative studies examining the motivations, experiences, and potential struggles accompanying their uses. With the exception of a study by Boesen and colleagues (2010), the scientific literature on child tracking has mainly considered uses from a theoretical and rather disembodied perspective, with a very critical take on the motivations and implications of such practices, generally presented as a harmful form of control over children.

In this article, we contribute with empirical insights into this type of surveillance by studying parents’ accounts of their family practices with technology, which add some much-needed nuances to the “universal alarmism” (Coutard & Guy, 2007: 713) of the above-mentioned literature and shows the potential for negotiation inherent in these child-tracking practices. This also entails not categorising these practices a priori on the side of “control” rather than on that of “care”, but to rather consider how care and control are ambiguous and enmeshed domains, not so easy to disentangle. Regarding the latter, we are inspired by the science and technology studies scholarship on care, which has tended to “unsettle” this notion by pointing to its ambivalences and refusing

to automatically equate it with good feelings (Murphy, 2015). In particular, both our empirical approach of child surveillance and our consideration of the tensions of care and control draw on the work of Mol and colleagues (2010), which emphasises the need to consider how care is done, because what good care “is” cannot be predetermined but only achieved in practice, by navigating its ambiguities through a persistent tinkering of elements.

It is precisely the diverse negotiations and tinkering that surround the domestication of location-tracking apps that we want to examine, as parents struggle to reconcile tracking (or other forms of surveillance) with their ideals of parental care. As such, although the term might indicate that a technology can eventually be tamed, domestication is not a smooth, linear, or definitive process (Ling, 2004). Fitting a technology into one’s world is not a decision carried out by an individual in interaction with the technology’s affordances, but a wider social process involving negotiations with oneself and others; these negotiations can take on a moral tone, reflect ambivalences, and lead to the re-definition of the technology’s role and use, or to its rejection (Ling, 2004). The use or the non-use of a technology can also participate in the performance – or in the attribution – of a certain identity. In the context examined in this article, parents’ justifications of their technological choices are entangled with their identity projects as parents and family, and with what they consider to be “good parenting” (Clark, 2013) – a notion that depends on their values, emotions, and practicalities, but also on social expectations. It is with these different elements in mind that we wish to address the “struggles of domestication” of child-tracking technologies.

Literature review

In a time when digital technologies have pervaded everyday family life, scholars have started to examine how such technologies enable new forms of interpersonal surveillance in families (Nelson & Garey, 2009; Steeves & Jones, 2010; Taylor & Rooney, 2017). While surveillance in the family is certainly not a new phenomenon, the digital age has considerably extended the possibilities of monitoring loved ones, and in particular children (Taylor & Rooney, 2017).

The literature on the surveillance of children has particularly raised the tensions of care and control. However, as this tension is inherent in many other surveillance practices, it has been more centrally discussed in the field of surveillance studies, alongside other fundamental reflections on the conceptualisations of surveillance. We introduce these discussions in the next section.

Surveillance, control, and care

The idea of “control” has long shaped the representations of surveillance logics, motivations, and implications. As Smith (2014: 7) put it, our imagination of surveillance has been framed as “an act of dedicated watching by a figure of authority for purposes of knowledge acquisition or dominion”. In the last decades, however, scholars have offered more complex understandings of surveillance by emphasising its many different purposes and rationales; surveillance is not only “done to us” (Lyon, 2018: 29) but is something we actively participate in, and watching and being watched can be enjoy-

able, empowering, and subjectivity building (Albrechtslund, 2008; Koskela, 2002). It is in line with these reflections that the intersections of surveillance and care have been addressed. Scholars have raised the potential of an emphasis on care to “temper the dominance of themes of ‘control’ that characterise the field” (Abu-Laban, 2014: 45), allowing the foregrounding of diverse motivations and the complex emotional entanglements underlying surveillance practices. Additionally, the emphasis on care has inspired thinking about surveillance in a more positive way, by connecting it to feelings of compassion or love, or by raising its positive outcomes for the people watched and cared for (McIntosh et al., 2010).

Whereas the emphasis on care has allowed a broader concept of surveillance, scholars have also raised the ambiguities of care. In the context of parenting practices, “caring” can take on a moral tone and be instrumentalised by marketers of surveillance technologies to sell their devices (Marx & Steeves, 2010), or stigmatise the choice to not monitor one’s child as an irresponsible attitude (Taylor & Rooney 2017). The rhetoric of care and child protection in social work has also been criticised for acting as a Trojan horse disguising a desire to control and discipline under the pretext of protection (Wrennal, 2010).

As a result, scholars have underlined that care and control – originally depicted by Lyon as the “Janus face of surveillance” (2001: 3; see also Lyon, 2003) – should be conceived in a dialectical rather than a dichotomous relation, for “dichotomy [...] overlooks the ways in which care itself can operate through mechanisms of control”, and the fact that motivations of care and control cannot always be easily separated (Nelson & Garey, 2009: 8). In this article, it is precisely parents’ struggles with the ambivalence of surveillance as both care and control that we want to explore, through the specific case of child tracking.

Child tracking

As in the rest of the literature on the surveillance of children, the case of child tracking also reflects a tension between care and control. However, while scholars underline that tracking can be performed with the preservation of the child in mind, they generally implicitly condemn these practices as “bad care” or control in disguise.

First, tracking is often presented as triggered by an exaggerated anxiety towards public space. Several articles underline that the likelihood of “stranger danger” is exaggerated in the minds of parents (Oostveen et al., 2014) and that violence against children is less likely to happen in public spaces than at home at the hand of family members or acquaintances (Hasinoff, 2017). Hasinoff (2017) and Nihlén Fahlquist (2015) also underline how companies commercialising child-tracking technologies appeal to these basic fears by exacerbating the representation of public space as unsafe. Additionally, these technologies are also criticised for offering a false sense of security, as they misleadingly equate location information with safety (Hasinoff, 2017; Simpson, 2014).

Second, scholars have also criticised the negative implications of location tracking for children’s right to privacy (Nihlén Fahlquist, 2015) and freedom of movement (Simpson, 2014). Tracking is presented as impairing children’s freedom to explore and their ability to develop an “environmental literacy” (Hasinoff, 2017). It is seen as detrimental to the development of children’s autonomy, resilience to risks, and sense of initiative (Nihlén

Fahlquist, 2015; Simpson, 2014). Finally, the use of tracking technologies is often seen as reinforcing power imbalances between parents and children and as undermining trust in their relations (Boesen et al., 2010; Hasinoff, 2017).

Although it is important to critically address the potential problems raised by child tracking, these publications are particularly techno-pessimistic and do not really examine how these technologies and their sometimes-unsettling features are actually used in practice. The literature on the uses of location tracking in families is scarce and, most often, examines users' engagements with these technologies through "hypothetical scenarios or when experimenting with prototypes for a short time" (Boesen et al., 2010: 65). Amongst studies of prototypes, Brown and colleagues (2007) provide a more techno-optimistic narrative by emphasising how families used the tracking prototype to coordinate activities and cultivate a sense of connectedness. The only qualitative study examining families for whom location tracking was already an integral part of everyday life is that of Boesen and colleagues (2010), who document uses amongst four families in London. Although the authors also strongly emphasise the negative effects of child tracking for the development of trust between parents and children, they show how teenagers resist this surveillance by turning their phone off, leaving it where they said they would be, or claiming the technology failed. Pointing to these strategies of resistance is important, as it shows that the effects of these technologies on children's freedom of movement are more contrasted than expected. This also shows how technologies are negotiated by the actors who use them or are confronted to their effects, in order to mitigate their negative effects or to make them fit into their world.

In this article, we wish to provide further empirical insights into the negotiations that surround the domestication of child-tracking apps. In the next section, we detail our methodological approach as well as our case study.

Methodological approach

The empirical material presented in this article has been collected as part of the project "Childhood, Intimacy and Surveillance Practices" (ChIP), aimed at exploring the dynamics of interpersonal surveillance in families' everyday life. Centred on the perspective of parents and children, the project examines what motivates the use of a specific technology, how this use is negotiated, and what the implications are of these practices for the life of the family. The project did not focus exclusively on location tracking, but on the many digital technologies (e.g., tablets, smartphones, social media, etc.) that could underpin forms of interpersonal surveillance. Through this focus, the project contributes to the understanding of the challenges raised by the infiltration of digital technologies into everyday interpersonal relations.

The ChIP project relies on a qualitative methodology based on semistructured interviews conducted with parents in 17 families, and on focus groups conducted with adolescents at two schools. The study was conducted in 2017 in Denmark, a country known for having a high level of ICT (information and communications technology) integration in the population and at various levels of society (Mascheroni & Cuman, 2014), but also for having a supportive and positive parenting culture, oriented towards nurturing independent children – like it is more generally the case in Nordic countries (Doepke & Zilibotti, 2019).

This article focuses exclusively on the empirical material collected from the 17 interviews with parents (excerpts presented in this article have been translated by the authors). A key criterion for the selection of cases was to find families with children still living at home. On this basis, 17 cases were selected through a snowball sampling via Facebook (Baltar & Brunet, 2012), using the researchers' personal profiles and the research centre's official page. The cases selected are rather diverse in terms of family structures (nuclear, divorced, and blended), geographical situations (urban, suburban, and rural), and children's ages (preschool-, school-children, and teenagers), but rather homogeneous in regards of socioeconomic status, as most of the participants were highly educated and working full-time jobs. The interviews were conducted in Danish and transcribed and coded using Nvivo 12.

One of the inherent limitations of the interview method is the gap that can exist between discourse and practice, that is, between what people say they do and what they actually do. This is even more clear in a context characterised by a strong social normativity, where interviewees may want to conform to what is accepted as good. Instead of seeing this possible bias of social desirability as preventing us from accessing the "truth" of parents' surveillance practices, we approach the issue hermeneutically and examine how parents deal with the normativity of surveillance as care and control to perform a parental identity compatible with their conception of good parenting, while justifying their technological choices.

Regarding the use of location-tracking apps, not all families had children old enough to have a smartphone and, thus, be tracked. Of the 17 cases, only 3 actively used such technologies; 4 were considering using them; and the remaining 10 were opposed to it. The applications used by our interviewees were "Find my iPhone" and "Find my friends", installed by default on every iPhone since 2015. Of the two, the "Find my friends" app is the one designed with the purpose of locating friends and relatives in real time. On this app, each user must consent to share their location and can decide to temporarily or permanently stop sharing it. The app has a geofencing feature, notifying the user when the tracked person leaves or arrives in a place, but none of our interviewees mentioned using it. In comparison, the "Find my iPhone" app was initially meant as a way for the user to locate their own lost Apple device. The parents who mentioned using it for tracking their children were, therefore, diverting the app's intended purpose. This application only allows real-time tracking and none of the other mentioned features (geofencing or the possibility to easily unshare location). Two additional remarks can be made about the use of these specific apps: first, our users were all iPhone users (which tends to confirm our sample's bias towards a rather wealthy category of the population); second, none of them had deliberately installed a child-tracking app, but were using what was already available on their phone. We can hypothesise that using these available apps was maybe perceived as less problematic and intrusive than taking the step of downloading an app specifically designed for child tracking.

Analysis

Justifying the uses of location tracking as care

In our study, parents seemed to have trouble coming to terms with their digital activities as "surveillance" and preferred to translate these into more acceptable parental functions,

such as ways of caring for their children. Their justifications, therefore, often relate to variations of caring practices but, as we argue, are at the same time entangled with other purposes ranging from convenience and coordination to curiosity, enjoyment, and a perceived sense of safety. In the following, we explore the complexities of these care practices and emphasise how caring is interwoven with different levels of emotions as well as simple pragmatic concerns of daily coordination.

An important argument put forward by parents to explain their use of tracking apps is their fear that their children might get lost and, in case that happens, their anxiety about being able to find them again or guide them home. One couple, Kirsten and Karl, discussed this in relation to their 8-year-old daughter. Kirsten said:

Well, when she bikes around the neighbourhood, I think it's nice she has [a mobile phone] with her. [...] She called once and said she was lost. And then *it is very nice* just to be able to go in to see where she is and say, "okay you are here, then you just have to turn left and then you come home. Then you are on the right path again, right?" She goes horse-riding not far from here and last Monday, she wanted to bike home alone for the first time, and it took her a long time, and then we thought: "*Okay, where is she?*" She called and said that she was not exactly sure where she was and then you [i.e., the father] *guided her home* [emphasis added].

The quote reveals that location tracking is seen as a "security net" in case their daughter cannot find her way back. The example illustrates how location information can be a useful resource for remote parenting and caregiving (Boesen et al., 2010), allowing parents to provide a sort of navigation help at a distance. In the context of our study, the use of location tracking as "care" was mainly expressed around this idea of helping a disoriented child get home, and hardly in reference to stranger dangers or the perception of neighbourhoods as particularly unsafe, as in the London context presented by Boesen and colleagues (2010).

Parents' willingness to care for the well-being of their children was not the only reason for using location-tracking applications. Knowing where other members of the family were was also helpful to coordinate domestic and parenting tasks. Location information was used to see how far from a place (generally home) one's child or partner was, which was then translated into an estimation of when they would get there. Domestic and parenting tasks were then coordinated in accordance with this estimation. This is apparent in the following quote by Laura, mother of three girls, who explained her use of the "Find my friends" app:

The oldest girl plays football and she bikes [...] Then it's nice to see: "Well, is she on her way? Is it time to prepare dinner?" So that's the way I typically use it *instead of calling and perhaps interrupting* something [emphasis added].

In this case, location tracking was not directly used as care for the preservation and safety of children, but as a form of care in the broader sense of reproductive labour and housework.

When they were used for coordination, location-tracking apps were replacing phone calls or other mediated forms of communication. According to Laura, she could easily get the information she was looking for by consulting the app "instead of calling and perhaps interrupting". Interestingly, she considered tracking somehow less intrusive than

calling (“because then I’m not annoying her by asking, ‘are you coming home soon?’”). Tracking was furthermore linked to convenience, as obtaining information about a family member’s whereabouts did not depend on picking up the phone. This was observed by Kirsten, who mentioned that her daughter always had her phone’s ringer on mute, or by Emma in reference to her husband, whose phone was always busy.

For users, tracking could have both a social and communicative purpose. In Emma’s family, for instance, the “Find my friends” app was also used as a location-based social network, allowing all the members of her nuclear and extended family to stay in touch by sharing information about their respective whereabouts, as she explained when presenting the application:

You can see who I have [pointing to the open app on the screen]. This is my oldest daughter. She’s at school. Then there is Sofia, my 10-year-old. She never brings her phone, so it will show up as at home, or it might be out of battery. Then there is Peter; he teaches a course in Copenhagen today, so he is not at his normal workplace. And Helle, she’s in school. Then there is my father; he is at work. Then there is my mother; she is also at work. And my brother; he is traveling in the US with his band. [...] *You can see it on a small map; this is my closest family* [emphasis added].

Seeing all her relatives on this “small map” was probably an enjoyable activity for Emma, satisfying her care about what each of them was up to. This pleasure of connectivity corroborates Brown and colleagues’ (2007) observation that location sharing supports family members’ emotional connections to one another and contributes to the production of the family as a social group.

When it came to tracking children, the emotional connectedness afforded by the “Find my friends” app was much more ambivalent and included a range of feelings such as anxiousness and worriedness in addition to enjoyment. Emma was particularly anxious about her 12-year-old daughter when she was spending her summer with her father (Emma’s ex-husband) in the US. During these times, Emma really wanted to be able to locate her in order to “see if everything was ok”. When she wasn’t able to do so, she felt anxious. However, she admitted that accessing her daughter’s location information could also heighten her anxiety:

When she travels there every year, I terminate her child subscription and give her an adult subscription [i.e., to the mobile phone operator], so I can also see her when she is in the United States. It’s an incredibly bad idea for me. It really is. Because if she does not move for several days then I get really worried. So, it is really a bad thing when I can see where she is when she is in the United States. And this is something we all know, but I do it anyway.

Although she sought reassurance in the app’s locative affordances, Emma rarely felt reassured. She nevertheless continued to track her daughter to maintain some control over her movements or absence of movements. Especially in connection with her ex-husband, Emma expressed a deep-rooted ambiguity; she could barely let go of the tracking, but at the same time was certain that it was “a bad thing”. In the following section, we further explore these tensions and dilemmas that the domestication of this technology implies.

The ambiguity of care and control: Negotiations and struggles

In the accounts previously presented, the adoption of child tracking could largely seem easy and unproblematic. However, most of the time, its adoption was met with ambivalence or required a series of negotiations. These were articulated, as we argue, around the tensions of surveillance as both care and control. These tensions were apparent in Gitte's hesitations about tracking her 14-year-old stepson, who was diagnosed with ADHD and whom she described as "the type of boy with ants in his pants". She referred to the experience of one of her colleagues whose son had similar personality traits and explained how, thanks to a tracking app, the colleague had been able to find "her cold and scared [son] out in the woods, where he had walked in circles because he had come a little further away than he should have to find home again". Although she valued how location tracking could help her take care of her stepson, she was ambivalent regarding the benefits of this technology:

But [if I use location tracking, I would do it] also in dialogue with my children. Because I also think that it puts a lot of restrictions on children. As a child in the '80s in what is today called "peripheral Denmark" [Udkantsdanmark], the adults absolutely did not have any way of knowing where you were. It was great fun and we did a lot of creative and sometimes dangerous things [laughs]. This has also helped shape me and made me who I am today. And I really want to give my children a childhood where they are not always controlled.

The benefits of location tracking in terms of care and security were counterbalanced with what Gitte regarded to be a harmful control over the freedom of her children. Her representation of this technology was, therefore, clashing with the identity she wanted to perform as a supportive and permissive parent. She was facing a dilemma between her idealisation of a childhood without control and her desire to take care of her children in the best possible way.

Just like Gitte, parents who were using (or considered using) a location-tracking app sometimes had difficulties dealing with the tensions of care and control. Those parents had to constantly negotiate this tension and try to legitimise their (planned) use of location tracking. To do so, they referred to rhetorics of care, or explicitly distinguished their practices from control. What we examine below is precisely how parents dealt with the normativity of care and control in order to discursively build their parenting identity as good parents and "good surveillants".

First, for many of our interviewees, the appropriateness of tracking depended on the child's age. In other words, while tracking a young child was seen as a legitimate practice, tracking a teenager was seen as more problematic, intrusive, and controlling. Consider the accounts of Michael and Tina, who imagined using location tracking when their older daughter (aged 7 at the time) would get a smartphone:

Michael: If Rikke gets a phone in, for example, third grade, then I would probably set up tracking on the device, but when she gets 14, 15, 16 – I don't know exactly where to draw the line – then I will probably stop tracking her and say, "Okay, she also needs her privacy". But as long as she is little, I would use it. [...] When the child is 16, I think it would be problematic, because then it would be an abuse of trust.

Tina: Yes, that means more surveillance and mistrust.

As appears here, the appropriateness of location tracking is defined in accordance with the perceived needs of children – “privacy” being framed as one of older children. As a result, this technology is not domesticated once and for all, but its use must be renegotiated in an evolving context where children’s needs and family dynamics are changing (Clark, 2011). These negotiations are shaped by common representations of what is “good parenting”, representations that are not the same for the parent of a young child and that of a teenager. As Clark (2011: 330) writes:

Psychologists, parenting experts, and parents themselves have contributed to the formation of this discourse, describing a “good parent” of the young child as one who is consistent, involved, and focused on assuring the well-being of the child, whereas a “good parent” of the older child is the one who is flexible, available, and focused on allowing the child both the freedom to take risks and the responsibility for dealing with the consequences of her mistakes.

This shifting conception of what a “good parent” should do at different ages certainly helped legitimise the use of location tracking as “care” for the young child while it made it appear like “control” for the older one.

Having to renegotiate the use of location tracking and eventually stop using it was not an easy task for all. Although Emma anticipated that she would soon have to stop tracking her daughter, she also expressed how challenging it would be for her to renounce using a technology that was so much embedded in her everyday life as a parent:

So, it [i.e., being unable to track her daughter] will be challenging for me at least. I have become accustomed to knowing [through tracking] that everything is okay. But one should also have a private life.

Emma was torn between her willingness to be a “good parent of the older child” and her simultaneous emotional attachment to a technology she had become accustomed to. The struggles of domestication are also visible in the difficulty of giving up a tool that is no longer regarded as appropriate.

Secondly, apart from following this age-dependent definition of appropriateness, users developed other strategies to distinguish their practices from what they deemed to be abusive and controlling. They were, thus, defining their own norms of acceptable use, their own “tracking etiquette”. For Karl and Kirsten, for instance, the norm of acceptable use was to check the application when their daughter was taking too long to come home. In defining this norm of occasional use, they were contesting tracking’s affordance of continued location information and distancing their practices from what they implicitly regarded as an unacceptable control:

Karl: Then again, we are not tracking where she has been on the phone.

Kirsten: No, no.

Karl: So if she tells us that she’s simply been on a walk, then [we trust that] she’s just been on a walk.

Whereas Karl and Kirsten justified their surveillance by showing that trust in their daughter’s word was still an essential element of their practices, Emma and her family had

defined other norms of acceptable use. Referring to situations on the “Find my friends” app where her own mother had been too invasive, Emma clearly stated that it was unacceptable to ask, “what were you doing there?” Additionally, the norms of acceptable use in her family included the possibility for each one to unshare their location when they did not wish others to know where they were. Although we do not know how these norms were applied and experienced in practice, there was, at least in her discourse, a willingness to ensure that this technology was not used in an intrusive way and that it allowed some spaces of privacy.

Generally, tracking was also envisaged with the idea that it had to be implemented “in dialogue” with children (like Gitte said) and that it was “important [to] renegotiate it all the time” (Emma). In the context of Denmark – known for its supportive and positive parenting culture – tracking a child without their knowledge was certainly not a norm. The use of location-sharing platforms (such as “Find my friends”), where parents and children could mutually track each other, certainly also helped parents imagine their practices as a horizontal and mutual “sharing”, rather than top-down “surveillance”.

The rejection of control: The case of non-adopters

The last aspect of the struggles of domestication that we want to address is the case of parents who did not adopt location-tracking technologies. It is important to consider the opinions and practices of these non-adopters because, when it comes to child tracking, they are the majority. As such, they are “active agents in the (de-)stabilisation” (Oudshoorn & Pinch, 2003: 27) of this technology, as they contribute to its stigmatisation as “control” and certainly impact users’ attitude towards these tools.

As already raised by Vasalou and colleagues (2012), non-users justify their resistance by emphasising the incompatibility of these technologies with their family values. For many of our interviewees, indeed, this technology was incompatible with their representations of how “trust” should be enacted in a family. For instance, when Camilla was asked if she tracked her teenage sons, she replied that she did not because “she had no reason not to trust them”. This technology was associated with mistrust and suspicion because it could bring evidence that children were not where they said they would be. Conversely, non-use was framed as “real trust”, as parents had nothing else to rely on other than their child’s word: “I trust that when he tells me where he goes, that is where he will be”, Helle said about her son, for instance.

Location tracking was also conflicting with the style of parenting privileged by many of these parents, who aimed at nurturing the child’s independence and sense of responsibility. Tracking was associated with a form of helicopter-parenting that did not encourage children to find solutions on their own or learn from their mistakes. While referring to situations in which he feared for the well-being of his teenage son Peter, Michael valued the lessons Peter learnt from *not* being under parental surveillance:

Obviously, when Peter goes out at night and you, as a parent, hear about stab-bings and shootings, of course you grow concerned. In the past, Peter has been robbed, while being very, very drunk at Nørreport [city centre of Copenhagen]. [...] And he lost his phone there, you know? So of course you are worried, but me monitoring him doesn’t help at all. [...] It is his own experience that he is going

to carry, you know? To... not get so drunk, right? And look out for yourself. Or whatever lesson he takes from it, right?

However, while tracking was seen as incompatible with their values and parenting style, these non-adopters were nevertheless interested in knowing “where” their children were. In our study, several parents mentioned that they expected their children to call them if they planned to go somewhere, which corroborates Fotel and Thomsen’s observation (2002: 543) that “parents keep track of their children’s position in space by making them call during the day to tell where they are”. Others were themselves calling their children on their mobile phone to know where they were and when they would get home. In some cases, although location tracking was not used, parents had a pretty accurate overview of where their child was, for how long, and under the supervision of whom. “Everything is coordinated”, said Lisbeth, mother of three small children:

I would call them [her children], if they had a phone, and if not, I put my trust in the adults expecting him [her son] to show up for soccer practice. There is really a lot of communication. For example, in the after-school care: “who will go by themselves directly to soccer practice?” Everything is coordinated, so the adults responsible for him will know if he is supposed to go directly to soccer practice. And if, in a year or so, we ask him to bike home on his own, and if I then expect him home at a certain time, and if he doesn’t show up, I would simply go out to find him.

Thus, these parents used other means – predominantly phone calls – to monitor their children’s whereabouts, confirming Barron’s (2017) observation that mobile phones have been largely appropriated by parents to monitor their children in time and space. Although calling and tracking could both be used to answer the same type of question (i.e., where are you, and when will you get home?), for the same purpose of coordination, they were seen as diametrically different:

Lisbeth: I would always call them. I would never feel the need to track them as if they didn’t have a voice.

Malene: For me there is then a huge difference in whether she [her daughter] offers us that information [i.e., by calling], or whether we seek it out or impose it on her.

For Lisbeth and Malene, what was unacceptable was the fact that the tracked person remained passive in the communication of location data, whereas they “had a voice” and actively gave this information through a phone call. Behind the passive–active dichotomy, what is implicitly opposed is also the *persistence* of tracking (i.e., the fact that location information is broadcast continuously and is therefore potentially accessible at all times) in contrast to the *occasional* occurrence of phone calls. The persistence of tracking was, thus, probably imagined as leaving the door open to intrusive and voyeuristic behaviour from parents. In other words, what was feared was the potential actions that could result from this technology’s affordances.

Conclusion

Surveillance encompasses many ambiguities. It is often seen as an abusive form of knowledge extraction threatening our fundamental rights and freedoms, or as a powerful means of imposing a social order by disciplining and controlling people; but surveillance also brings convenience, it is deeply woven into the functioning of our everyday infrastructures and is an important component of care practices in hospitals, nursing homes, and families. In this article, we have focused on surveillance's tension between care and control. As we have argued, care and control do not just reflect good or bad surveillance, but are sometimes so closely entangled that it is difficult to distinguish their impulse and mechanisms. Our analysis shows how this ambiguity is lived and negotiated by parents who use – or don't use – location-tracking applications to monitor their children's whereabouts.

We have framed the negotiations of this ambiguity as “struggles of domestication”. As we have argued, these struggles are apparent in the resistance of non-users, and in the difficulties of users to fully embrace the affordances of these technologies and to seamlessly fit them into their world. In both cases, these resistances and difficulties are linked to the negative connotations of this technology, suggesting an abusive control over children's autonomy and freedom to explore. Although users attributed a more positive meaning to child tracking by emphasising how this technology helped them take care of their children and their household, their struggles of domestication were expressed in the many norms and boundaries they imposed on themselves in order to guarantee that their uses would remain compatible with trust, privacy, and social expectations of what “good parents” should do. In particular, the boundary between care and control was set according to the perceived needs of children for protection versus privacy at different ages. As such, while tracking a small child was framed as care for a vulnerable being in need of protection, tracking a teenager was more difficult to couch in the language of care and started to be regarded as control. As a consequence, several of our interviewees had planned to renounce tracking their children when they became teenagers.

By showing these struggles of domestication in this article, we have added some nuances to the existing literature on child-tracking technologies, which tends to emphasise the universally negative effects of their use, without, however, empirically grounding their observations. Through our analysis of the ways in which this technology and its potential for voyeuristic uses are negotiated and regulated by users, we have emphasised the importance of looking at how technical artefacts are appropriated, used, or rejected in practice. Indeed, no matter how harmful the design of a technology might appear, it remains a “chimera” if it is not adopted or used as planned (Akrich, 1992). By highlighting the resistances and difficulties in appropriating these tools, we have followed a prevalent perspective in science and technology studies, in which technology's effects on society and relationships cannot be fully predicted, as they are always contextual and contingent.

Arguably, our results might also reflect the specificities of Nordic parenting culture, described as permissive, supportive, and – in comparison with other countries – valuing children's independence and imagination over their obedience (Doepke & Zilibotti, 2019). The precautions taken by users of location-tracking apps to distance their practices from control can, therefore, be interpreted as ways of fitting this technology into this specific culture of parenting. In that regard, it would be interesting to compare the

results of this study with empirical evidence from countries with more authoritarian parenting cultures. However, it should be added that our study is based on a limited number of user cases and that our sample of families is rather homogeneous in socioeconomic terms. Additional observations and more diversified profiles of interviewees would be necessary to confirm or nuance the results presented here.

Finally, further studies investigating how location tracking is actually carried out (beyond discourses) and how children experience this surveillance would be needed to complement our analysis. Implementing observation methods in families to study these furtive moments of tracking and obtaining access to children for interviews would, however, represent an important challenge in terms of feasibility.

References

- Abu-Laban, Y. (2014). Gendering surveillance studies: The empirical and normative promise of feminist methodology. *Surveillance & Society*, 13(1), 44–56. <https://doi.org/10.24908/ss.v13i1.5163>
- Akrich, M. (1992). The de-description of technical objects. In W. E. Bijker, & J. Law (Eds.), *Shaping technology/building society: Studies in sociotechnical change* (pp. 205–224). MIT Press.
- Albrechtslund, A. (2008). Online social networking as participatory surveillance. *First Monday*, 13(3). <https://doi.org/10.5210/fm.v13i3.2142>
- Baltar, F., & Brunet, I. (2012). Social research 2.0: Virtual snowball sampling method using Facebook. *Internet Research*, 22(1), 57–74. <https://doi.org/10.1108/10662241211199960>
- Barron, C. (2017). “Where are you, who are you with, what are you doing?” Children’s strategies of negotiation and resistance to parental monitoring and surveillance via mobile phones. In E. Taylor, & T. Rooney (Eds.), *Surveillance futures: Social and ethical implications of new technologies for children and young people* (pp. 110–121). Routledge. <https://doi.org/10.4324/9781315611402>
- Boesen, J., Rode, J. A., & Mancini, C. (2010). The domestic panopticon: Location tracking in families. *Proceedings of the 12th ACM International Conference on Ubiquitous Computing – Ubicomp ’10, Copenhagen, Denmark*. ACM Press. <https://doi.org/10.1145/1864349.1864382>
- Brown, B., Taylor, A. S., Izadi, S., Sellen, A., Kaye, J. J., & Eardley, R. (2007). Locating family values: A field trial of the whereabouts clock. In J. Krumm, G. D. Abowd, A. Seneviratne, & T. Strang (Eds.), *UbiComp 2007: Ubiquitous Computing* (pp. 354–371). Springer. https://doi.org/10.1007/978-3-540-74853-3_21
- Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory*, 21(4), 323–343. <https://doi.org/10.1111/j.1468-2885.2011.01391.x>
- Clark, L. S. (2013). *The parent app: Understanding families in the digital age*. Oxford University Press.
- Coutard, O., & Guy, S. (2007). STS and the city: Politics and practices of hope. *Science, Technology, & Human Values*, 32(6), 713–734. <https://doi.org/10.1177/0162243907303600>
- Doepke, M., & Zilibotti, F. (2019). *Love, money, and parenting: How economics explains the way we raise our kids*. Princeton University Press.
- Fotel, T., & Thomsen, T. U. (2002). The surveillance of children’s mobility. *Surveillance & Society*, 1(4), 535–554. <https://doi.org/10.24908/ss.v1i4.3335>
- Hasinoff, A. A. (2017). Where are you? Location tracking and the promise of child safety. *Television & New Media*, 18(6), 496–512. <https://doi.org/10.1177/1527476416680450>
- Koskela, H. (2002). Webcams, TV shows and mobile phones: Empowering exhibitionism. *Surveillance & Society*, 2(2/3), 199–215. <https://doi.org/10.24908/ss.v2i2/3.3374>
- Ling, R. S. (2004). *The mobile connection: The cell phone’s impact on society*. Morgan Kaufmann.
- Lyon, D. (2001). *Surveillance society: Monitoring everyday life*. Open University Press.
- Lyon, D. (2003). Surveillance technology and surveillance society. In T. J. Misa, P. Brey, & A. Feenberg (Eds.), *Modernity and technology* (pp. 161–184). MIT Press.
- Lyon, D. (2018). *The culture of surveillance: Watching as a way of life*. Polity.
- Marx, G., & Steeves, V. (2010). From the beginning: Children as subjects and agents of surveillance. *Surveillance & Society*, 7(3/4), 192–230. <https://doi.org/10.24908/ss.v7i3/4.4152>
- Mascheroni, G., & Cuman, A. (2014). *Net children go mobile: Final report. Deliverables D6.4 & D5.2*. Educat.
- McIntosh, I., Punch, S., Dorrer, N., & Emond, R. (2010). “You don’t have to be watched to make your toast”: Surveillance and food practices within residential care. *Surveillance & Society*, 7(3/4), 290–303. <https://doi.org/10.24908/ss.v7i3/4.4157>

- Mol, A., Moser, I., & Pols, J. (Eds.). (2010). *Care in practice: On tinkering in clinics, homes and farms*. Transcript-Verlag.
- Murphy, M. (2015). Unsettling care: Troubling transnational itineraries of care in feminist health practices. *Social Studies of Science*, 45(5), 717–737. <https://doi.org/10.1177/030631271558913>
- Nelson, M. K., & Garey, A. I. (Eds.). (2009). *Who's watching? Daily practices of surveillance among contemporary families*. Vanderbilt University Press.
- Nihlén Fahlquist, J. (2015). Responsibility and privacy – Ethical aspects of using GPS to track children. *Children & Society*, 29(1), 38–47. <https://doi.org/10.1111/chso.12016>
- Oostveen, A.-M., Vasalou, A., Van den Besselaar, P., & Brown, I. (2014). Child location tracking in the US and the UK: Same technology, different social implications. *Surveillance & Society*, 12(4), 581–593. <https://doi.org/10.24908/ss.v12i4.4937>
- Oudshoorn, N., & Pinch, T. (2003). Introduction: How users and non-users matter. In N. Oudshoorn, & T. Pinch (Eds.), *How users matter: The co-construction of users and technologies* (pp. 1–25). MIT Press.
- Simpson, B. (2014). Tracking children, constructing fear: GPS and the manufacture of family safety. *Information & Communications Technology Law*, 23(3), 273–285. <https://doi.org/10.1080/13600834.2014.970377>
- Smith, G. J. D. (2014). *Opening the black box: The work of watching*. Routledge. <https://doi.org/10.4324/9780203519387>
- Steeves, V., & Jones, O. (2010). Editorial: Surveillance, children and childhood. *Surveillance & Society*, 7(3/4), 187–191. <https://doi.org/10.24908/ss.v7i3/4.4151>
- Taylor, E., & Rooney, T. (2017). *Surveillance futures: Social and ethical implications of new technologies for children and young people*. Routledge. <https://doi.org/10.4324/9781315611402>
- Vasalou, A., Oostveen, A.-M., & Joinson, A. N. (2012, February 11). A case study of non-adoption: The values of location tracking in the family. *Computer Supported Cooperative Work (CSCW) 2012 Conference, Seattle, USA*. <https://doi.org/10.2139/ssrn.2003131>
- Wrennall, L. (2010). Surveillance and child protection: De-mystifying the Trojan horse. *Surveillance & Society*, 7(3/4), 304–324. <https://doi.org/10.24908/ss.v7i3/4.4158>