



YOUNG CHILDREN'S AGENCY IN THEIR DIGITAL MEDIA USE IN THE SOCIOCULTURAL CONTEXTS OF HOMES: A CASE STUDY FROM FINLAND

Kristiina Kumpulainen
Heidi Sairanen
Alexandra Nordström
University of Helsinki

Abstract

This socioculturally framed case study investigates the agency of young children aged 2 years old during their digital media use in their homes in Finland. The study has two objectives: (a) to portray children's use of digital media in homes and (b) to identify how, if at all, children's agency manifests itself in their digitally mediated activities in the home context. The case study data were collected by means of the "Day in the Life" methodology (Gillen, et al., 2007), which entails researchers visiting children's homes and collecting observational and video data over one full day. The parents' accounts were also taken into consideration by means of an informal interview. The findings demonstrate how the children's agency manifested itself in child-initiated activities that afforded children to make choices, and to take active, interactive and creative positions around digital media. The children's agency was mediated by the sociocultural contexts of their homes, including the nature of digital media at their disposal and the rules, objectives and social interactions between the child and adult(s). The study contributes to the present-day understanding of the sociocultural conditions of children's agency and its manifestations in their digital media use at home.

Keywords: Young children, home, digital media use, agency, sociocultural approach.

Introduction

Digital devices are increasingly permeating many children's everyday lives already from birth (Chaudron et al., 2015; Suoninen, 2014). Yet, little research exists currently on the ways in which young children use and interact with digital devices in their homes (Kumpulainen & Gillen, 2017). In this study, we aim to enlighten young children's (aged 2 years old) digital media use at home with particular interest in young children's agency. We seek to investigate the purposes of children's media use at home and how their agency is mediated through their use of digital media. The study addresses a major gap in research; at present, there is little research on young children's agency in their use of digital media in their homes, including how sociocultural contexts and relationships in the home support these agentive processes.

Understanding and researching young children's agency

Our interest in young children's agency draws on the sociocultural notions of human agency and development (Kumpulainen & Lipponen, 2010; Lipponen & Kumpulainen, 2011; Rainio, 2010; Rajala, Martin, & Kumpulainen, 2016). This is amplified by the United Nations (UN) Convention on the Rights of the Child¹, which holds that children have the right to participate and learn in society and have the freedom to express their opinions on matters that affect their lives. We also draw on the sociology of childhood by recognising children as active agents in their lifeworlds who are capable of agency (Prout, 2005). Hence, in our research, we hope to provide complementary insights into existing discourses around digital childhoods that too often position children as victims and/or passive consumers of digital media. Generating research on young children's agency in their use of digital media in home contexts and the sociocultural conditions for the emergence of agency are pivotal to understanding children's everyday lives, learning and wellbeing in the digitalised society.

In our work, we view agency as situated, relational and represented by the possibilities for acting within a setting. A child's agency can manifest itself in a social activity in which she or he initiates an idea, agrees with, elaborates on, questions, or disagrees with what someone else initiated or refrains from responding. It also depends on whether her or his action is accepted, elaborated, questioned, challenged, or ignored' (Gresalfi, Martin, Hand, & Greeno, 2009, pp. 53).

We do not interpret the child's agency as innate. Rather, it is recognised in relation to a particular subject position that is co-constructed into being in children's interactions with their lifeworlds, as embedded and mediated by the personal history of the child in that position, as well as in relation to the sociocultural resources that make the child's agency possible (Edwards & Mackenzie, 2008; Holland, Lachiocotte, Skinner, & Cain, 1998). As our previous studies point out, different contexts hold different structures of people, material artefacts, rules, objectives, time structures and social interactions that mediate children's agency (Sairanen & Kumpulainen, 2014). Hence, we approach children's agency as relational and context-dependent. Furthermore, following Prout (2005), we regard agency as never fully possessed nor developed, but always undergoing development and change (see also Greeno, 2006; Göncü &

¹ <https://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf>

Perone, 2005).

The sociocultural approach underscores human agency as dialectically related both to the individual and to the activity of which the individual is a part. Human beings are seen as social agents, dependent on other people and diverse material and symbolic resources that communities have developed over time. Agency is hence closely related to autonomy and power relations in human activity and learning (Rajala, Martin, & Kumpulainen, 2016). Agency is a process that is distributed and produced between both human and non-human actors, including different artefacts, such as digital media tools and contents. Agency is regarded as a dynamic hybrid that can be researched and understood only in relation to these different entities. From this, it reasons that individual agency becomes merely a construction, as agency is always distributed, relational and context-dependent.

The sociocultural theorising advocated by our work also underscores that humans are not born as agentive beings but that agency develops through participation in collective activities. We understand the development of agency as a process of becoming, in which agency accounts for being able to contribute to, influence and change the environment, including the material conditions of one's life (Holland & Lachicotte, 2007; Vygotsky, 1978). Agency calls for experience, learning and development, as well as courage and desire for agency (Lee, 2001). According to Martin (2004), agency should be viewed at the same time as an emergent capacity of the developing person and as a characteristic of interpersonal interaction. This entails learning to control oneself by internalising cultural values, traditions and tools and equally to learn to use these cultural tools to overcome existing constraints and develop something new.

Insights into empirical research on children's agency

Although empirical research on children's agency has received increased attention in recent years (see e.g. Hilppö Lipponen, Kumpulainen, & Rainio, 2016; Kumpulainen & Lipponen, 2010; Rajala, Martin, & Kumpulainen, 2016), there is little, if any, research on the ways in which children manifest their agency in interactions with digital media in the sociocultural context of their homes (Kumpulainen & Gillen, 2017). Generally, we lack systematic knowledge of what counts as the child's agentive action in their use of digital media and of how such agency develops.

In our earlier empirical research (Sairanen & Kumpulainen, 2014), when investigating children's sense of agency in transitioning from pre-primary school to first grade, we operationalised agency in terms of six modalities of agency, and we analysed how these modalities manifested themselves in children's multimodal accounts within and across pre-primary and primary school settings. These are, namely, 1) being able to do something; 2) knowing how to do something; 3) wanting to do something; 4) having the possibility to do something; 5) having to do something; and 6) feeling, experiencing and appreciating something (Jyrkämä, 2008). Our findings from this study illustrate the nuanced and sometimes contradictory ways in which the children related to and exercised their agency across the pre-primary school and first grade and how the sociocultural conditions and resources mediated these children's opportunities for agency.

Drawing on the conceptual work of Lipponen and Kumpulainen on agency (2011), the study of Rajala Hilppö Lipponen, & Kumpulainen (2013) explored how students' agency was co-constructed into being in a Finnish upper secondary school based on a technology-mediated interdisciplinary and collaborative inquiry project on local bicycle conditions. In their study, they identified three different types of agency in the students' social activities; epistemic agency was evidenced in those interactions when the students were able to bring in their knowledge and experiences to joint inquiry and meaning making. Relational agency manifested itself when the students were offering or asking for help from each other. Transformative agency was realised in social activities when the students created new solutions and/or perspectives to their inquiry work, as well as when the students took concrete actions to influence and make a difference in their local cycling routes.

The study of Kucirkova and Flewitt (2018) investigated the views of education professionals and app designers on the potential of digital personalisation to promote young children's reading and play with 'smart toys'. The study reveals that a dominant theme addressed by the research participants was the potential of digital personalisation to both enhance and jeopardise children and adults' agency. Drawing on the conceptualisations of Walkerdine (1997) and Genishi and Goodwin (2008) on human identities as multiple and shifting, Kucirkova and Flewitt (2018) define agency to 'mean the features and affordances in children's use of digital media permitting them (or not) to make choices, to add content, to adopt active and interactive roles with digital features and to (re)negotiate identity' (pp. 5). The participants' discussion of agency was further operationalised into subordinate themes, including content curation, creativity, imagination, motivation, engagement, authorship, data safety and security, attention, story ownership and marketization.

Next, we turn to discussing our case study on young children's digital media use in their homes.

Study

Our study has two objectives: (a) to portray children's use of digital media in their homes and (b) to identify how, if at all, children's agency manifests itself in their digitally mediated activities in the home context. This study is part of the European-level DigiLitEY's 'A Day in the Digital Lives of Children aged 0–3' project that thrives to increase the current state of knowledge on young children's digital literacy and multimodal practices in homes and communities, including synthesising research on parental support of children's digital literacy development .

Research setting and participants

Our study is situated in a suburban metropolitan area in southern Finland with families representing middle to high socio-economic background. The study took place in children's homes and in outdoor areas constituting the child's living environments. Two children aged 2 years old, Emilia and Julia, and their families volunteered to take part in this study. The children's names are replaced with pseudonyms to assure their anonymity.

Research methods

The data were collected by means of the “Day in the Life” methodology (Gillen et al., 2007; Gillen & Cameron, 2010), which entailed researchers visiting children’s homes and collecting observational and video data over one full day with a specific interest in the form of media being used, the time, the purpose and place and the social context of usage. The parents were also interviewed while being supported by a summary video of their child’s day.

The data collection started with a preliminary discussion with the parents before entering the home. The first home visit included a preliminary familiarising discussion with the parent and the child and negotiating the consent to participate in the research. The second visit was the ‘Day in the Life’ visit, when researchers spent one full day videoing and observing the child’s activities and making field notes from the beginning of the child’s day of 4 to 6 hours. The researchers avoided participating in the child’s activities, though in an ethical and child-friendly manner. We discussed the length of the visit and the length of the videoing with the parents, preventing the child from becoming exhausted by the visit. We also put the camera away when we noticed that the child was disturbed, e.g. getting nervous about the videoing or whenever the parents wanted us to stop. The child was not videoed either when the child was sleeping or going to sleep, eating or in the bathroom. During the final visit, we met the parents and showed them a summary video of the recording—we had both an informal discussion and a more structured interview about the video. In sum, the data corpus of our analysis consisted of the videos and observations from one (whole) day in each family home, interview data with the parents about the summary video made from the child’s day and parent questionnaire data.

Data analysis

We transcribed the video data and used the transcriptions alongside the video data during the analysis process. We complemented the video and observation data with interview and questionnaire data. Our analysis followed an ethnographic logic of inquiry (Castanheira et al., 2009) in which the data analysis proceeds as a series of cycles and as a multi-step and multi-phase recursive analysis process. First, we investigated the entire data corpus and made content logs, that is, a time-indexed list of the child's activities over the day with and without digital media. The video and observation data analyses were amplified by the parent questionnaire and interview data. We then turned to analysing the form of media being used by the child, including the time, purpose and place and social context of usage. Next, following the idea of Gresalfi et al. (2009), we identified episodes that demonstrate children's display of agency in their use of digital media.

Next, we will illustrate purposefully identified samples from the entire data corpus derived via the so-called intensity sampling method. This entails identifying information-rich cases that manifest the phenomenon of interest intensely, but not extremely (Patton, 1990).

Results

Our results section begins by providing situated information about the sociocultural contexts of the children's homes and their everyday lives at home. This is followed by illustrations of the children's agency in their digital media use in their homes.

The sociocultural contexts of the children's everyday lives

Emilia

Emilia and her family live in a semi-detached house next to the nature and forest. Her family includes herself and a mother and father. Both parents have a master-level education, and her father is working full-time while her mother is on a parental leave at home with Emilia, soon returning to full-time work. Emilia spends her days at home and she takes part in the activities of an early childhood education (ECE) center a few times a week near home. At home, Emilia spends time in her own room and around the whole house, and she spends time outdoors in their own yard and in the forest nearby. Inside, she plays in her own room or in the living room and/or corridors. Emilia's parents have a tablet that Emilia uses with her parents and by herself. In addition, they have a TV and a laptop. Though Emilia does not have free access to the tablet, her parents tend to negotiate whether she can use the device. Sometimes, her mother may also suggest to Emilia when to use the tablet. On some days, Emilia does not use any digital devices. The parents follow the advice they received from the ECE center in regulating Emilia's screen time on the tablet. Before Emilia starts to use the tablet, her parents typically inform her of how many minutes she can use it. Her parents expressed that they did not want her to 'over use' the tablet or other digital devices, but realised that learning to use digital devices was good for Emilia. The parents were interested in what Emilia was doing with the tablet and they expressed a desire to become familiar with the contents. At times, they had a habit of watching TV together on a sofa.

Julia

Julia, her mother, her father and her younger sister all live in a terraced house in a park-like neighbourhood with their own yard and a yard shared with their neighbours. Julia is allowed to play alone in their own yard and in the front yard. She is not yet allowed to go to the housing cooperative's yard. Both parents have a master-level education, and her father is working full-time. Her mother has a full-time job as well, but at the time of our study, she was on a parental leave at home taking care of the children. Julia had access to her mother's smartphone and to a tablet. She also watched a smart TV. Sometimes she asked for access and sometimes she was asked if she wanted to use the digital devices. Occasionally, her father used an application lock so that she was unable to change the application on the tablet. Mainly, her mother did not use the lock. Before using the phone or tablet, her parents negotiate with Julia about the use and the content, as well as the duration of use. She used the devices both by herself and with her parents. Julia's parents wanted her to

use the digital media and did not feel it was harmful for her. With digital devices, they wanted to support Julia's interests: music and dancing, and they found digital media helpful for communicating with relatives and friends. Her parents also emphasised Julia's English learning via English speaking programmes and applications.

The children's use of digital media in the home

Our data revealed various uses of digital media in both Emilia's and Julia's homes. A tablet and a smartphone played key roles in both children's everyday use of digital media. The children used the devices alone or together with a parent. Both the children's parents were aware when their child was using the device, though they did not always know the purpose of the use. The children typically asked for permission to use the media, or their parent suggested the child might like to use a certain app or watch a video, for example. Neither of the children used digital media without permission. In both families, the parents had rules and restrictions for their child's use of digital media agreed upon with the children. In both cases, the children themselves also regulated their own media use according to joint rules and time restrictions. Altogether, we can summarise that in both families who took part in our study, the children's digital media use was controlled and structured.

Both Emilia and Julia used digital media for different purposes. The children used tablets for watching videos (typically children's TV or YouTube videos), playing games, searching for information and for creating sounds. The children used smartphones to watch videos—often self-made and about their own lives—as well as to take photos and to communicate with family members (including grandparents) and friends. We also found both Emilia and Julia discussing media content with a parent and showing media content to a parent and/or giving instructions to the parent about media use. We observed the children reading a text message with a parent and writing a WhatsApp/text message with emojis (also on their own). The children also made calls to their friends and family members. The children's use of digital media also included scrolling through a tablet's launch pad and wandering from an application or from a game to another, with no specific purpose from the outset.

Our data also suggest that the children's everyday lives were not only permeated by digital media, but it involved interacting and playing with adults and other children using more traditional toys and tools in the home and outside, reading traditional print-based books and picture books, drawing and cooking and doing other mundane activities in the house together with the parents. In addition, the children were found to use digital media as part of their other play activities; thus, we saw evi-

dence of hybridised activities in which old and new artefacts and technologies and online and offline worlds dynamically interact and merge (see also Marsh, 2014).

Manifestations of the children's agency in their digital media use at home

Communicating with the grandmother

Our first example demonstrates the manifestation of Julia's agency in her interest-driven use of digital media as a means of communicating with her grandmother. Julia's agency is co-constructed into being with her mother who notices from her own smartphone that Julia has received a text message from her grandmother. The grandmother has written the text message with letters and emojis. Julia's mother reads the written part of the message aloud to Julia and together they read and interpret the emojis and discuss the meaning of the message. Julia's mother gives the phone to her, leaves Julia alone and encourages her to respond to the grandmother. This encouragement leads Julia to respond to her grandmother by herself and she writes the message with emojis and sends it off from her mother's smartphone (see Figure 1). After Julia has written and sent out the message, she shows it to her mother and they read the message aloud together.

This example shows how Julia's agency was mediated by her mother and grandmother, but also by the digital media and its multimodal textual affordances (other than printed text). Julia does not meet her grandmother often, but they are in touch almost daily due to the mediation of digital technologies. Her grandmother sends her messages with emojis, which she is able to read although as she does not yet know how to read printed text and letters, and her mother reads the written parts of the messages aloud. Julia is also able to respond to her grandmother by emojis and in this way actively share narrations about her day and the latest news.



Figure 1. *Julia is writing a message to her grandmother.*

Playing with sounds

In this example, Emilia is sitting on a sofa using a music application that she has independently located whilst glancing through different applications she is allowed to search on the tablet. In this app, there are different pictures that make different sounds. First, she is just going through the pictures, tapping them one by one and listening to different sounds. Her father joins in to see what she is doing and for a while asks questions about the sounds and the app, but he eventually leaves her to make the sounds again by herself. Soon Emilia becomes distracted, and she changes places from the sofa to the floor. After this, her mother joins her to see what she is doing. The child starts to show the sounds to her mother and together they get excited about tapping the pictures and creating the sounds, and they shake their bodies to the rhythm of the sounds.

In this example, we can witness Emilia's agency in her use of a sound-making app on a tablet. The sounds make her laugh and she becomes interested in tapping the different sounds. Her mother gets excited about the sounds as well, and together they start to create sounds. Here, Emilia's agency is mediated by the sound-making app, her mother and the rules the parents have set for her usage of the tablet. The rules, that is, her parents giving her a certain amount of freedom in using the tablet, give her the opportunity to explore different applications, which results in Emilia locating a sound creation application that attracts her attention. Our example also shows how Emilia's parents are following her from some distance and that they are interested in what she is doing. They let her play with the app, and in the end her mother joins her to create sounds together (see Figure 2).



Figure 2. Emilia is creating sounds with her mother.

Searching for information online to make a ladybird

Our third example presents how Julia's agency is co-constructed into being with her mother in the context of her engagement in making a ladybird from cardboard with scissors. The making activity is initiated by Julia when she says that she would like to make a ladybird. Julia and her mother start to collect some materials for the tinkering. Then they decide to use the tablet to search for information online about the appearance of a ladybird. When Julia finds a picture that she likes, she starts to select the materials she needs for making the ladybird; with her mother's help, she starts to tinker. Occasionally, while making the ladybird, they go back to the picture online and discuss what would be the next step to get the ladybird ready.

In this example, Julia is using the tablet and the picture that Julia and her mother have located on the Internet to help Julia to see a picture of a ladybird (see Figure 3). Her agency is mediated by her interest to make a ladybird, the material artefacts, the tablet and her mother.

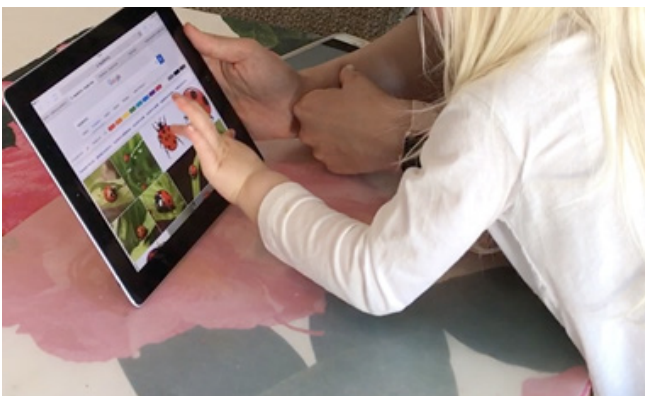


Figure 3. Julia and her mother are searching online for what a ladybird looks like

Discussion and conclusions

In our study, we focused our attention on investigating two young children's (aged 2 years old) digital media use at home, with particular interest in their agency and the ways in which sociocultural contexts, resources and relationships in the home supported these agentic processes. The motivation for our research stems from a recent literature review by Kumpulainen and Gillen (2017) that indicates that there is currently a dearth of research knowledge on young children's agency in their use of digital media in their homes. Generally, it appears that more attention has been given in the literature to the risks and threats of digital media in children's lives, with less attention paid to children's rights to protection, provision and participation in the digital age (Livingstone et al., 2017b; Livingstone, 2016).

Although knowledge of risks and threats to children's lives and healthy development caused by increased digitalisation are important, we also need research on how digital media and the social contexts in which it is used afford children opportunities for agency, learning and development. Research on young children's agency in their use of digital media in home contexts and the sociocultural conditions for the emergence of agency is pivotal to understanding children's everyday lives, learning and wellbeing in the digital age.

In our study, we have drawn on the sociocultural notions of human agency, the UN Convention on the Rights of the Child and the sociology of childhood that regard children as active agents capable of agency in their everyday lives. In our work, we have defined agency as situated, relational and represented by the possibilities for acting within a setting (Kumpulainen & Lipponen, 2010). From these premises, we have been able to illuminate how the children's agency in their use of digital media was mediated by the sociocultural contexts of their homes, including the nature of digital media at their disposal, and the rules, objectives and social interactions between the child and adult(s).

The child's agency manifested in our study in child-initiated activities in the social contexts of their homes that afforded the children to make choices, and to take active, interactive and creative positions around digital media. Our study also shows how the sociocultural practices and their rules and values in both families offered children opportunities to exercise their agency in their use of digital media in ways that at times are even difficult to realise with more traditional tools, such as via traditional

phone or a printed book. For instance, as our examples show, the children's agency was made possible via digital-mediation that created dynamic opportunities for multimodal communication with a grandmother in a distant location, playing with and generating complex sounds and searching for diverse online information for tinkering a ladybird. All these digitally mediated activities that we identified in the children's homes allowed the children to shape and influence their own engagement and to act as authors of their media use.

We also saw evidence of parents' active involvement in and support for these child-initiated activities, evidencing how the child's agency was co-constructed into being in a joint activity between the child and adult. Across the two families who participated in our study, it was common for there were jointly agreed rules for the child's digital media use in terms of both time and content. In both families, the children showed evidence of being able to hold to the rules they had made together with their parents concerning their use of the technology, as well as to discuss and negotiate the "rules" of use with their parents. Hence, our study points out how the child's agency is intertwined with the child being accountable for joint rules that mediate their engagement with digital media in the home. Moreover, our study suggests that in order for the children's agentic opportunities to flourish, there must be a culture of trust between the parents and the child for holding joint rules in digital media use.

At the same time, while reporting on our results, we understand that our study is small scale and that the families and children who took part in our study only represent themselves, as all families do. Nevertheless, we believe our study holds potential to illuminate the situated co-construction of these children's agency in their media use at home, offering insights into sociocultural conditions and resources that make these children's agency possible. This entails making visible how these two young children were learning to control themselves by internalising cultural values, traditions and tools, as well as, equally, learning to use these cultural tools, i.e. digital media in creative and personally meaningful ways, as well as to overcome existing constraints and develop something new (also see Rainio, 2009). These findings provide important lessons for parents and educators working with young children. In both case study families, the children were offered 'open spaces' for enacting agency, while at the same time, the parents tried their best to ensure the child's safe and purposeful use of digital media.

Our study also demonstrates how the “Day in the Life” methodology (Gillen et al., 2007; Gillen & Cameron, 2010) can act as a prominent and culturally sensitive research tool to capture the nuanced processes in children’s everyday lives that mediate their agency. This methodology resonates well with our conceptual approach, which holds that agency must be analysed and understood at the nexus of interlinked levels. These include the moment-to-moment interactions where agency is situationally constructed into being, the sociocultural contexts and its resources available to the child and finally the continuity and development of situational manifestations of agency across time and space. The use of this method, however, requires that the researchers be appropriately trained with the actual method and its ethics. It also calls for sensibility and flexibility from researchers in respecting the families and their wishes in terms of data collection.

Our study points to the importance of further research in young children’s use of digital media in varied homes, with varied resources, rules, values and practices. The European level ‘A Day in the Digital Lives of Children aged 0–3’ run by the of the DigiLitEY programme provides a promising context to explore further young children’s everyday lives in digitalising homes and communities.

Acknowledgements

We would like to express our sincere thanks to the children and their families who participated in our research. This research was funded by the Finnish Ministry of Education and Culture; The Joy of Learning Multi-literacies research and development program (project no: 3999923).

References

Castanheira, M. L., Green, J., & Dixon C. (2009). Investigating inclusive practices: An interactional ethnographic approach. In K. Kumpulainen, C. Hmelo-Silver, & M. César (Eds.), *Investigating classroom interaction: Methodologies in action* (pp.145-178). Rotterdam: Sense Publishers.

Chaudron, S, Plowman, L, Beutel, ME, ernikova, M, Donoso Navarette, V, Dreier, M, Fletcher-Watson, B, Heikkilä, A-S, Kontríková, V, Korkeamäki, R-L, Livingstone, S, Marsh, J, Mascheroni, G, Micheli, M, Milesi, D, Müller, KW, Myllylä-Nygård, T, Niska, M, Olkina, O, Ottovordemgentschenfelde, S, Ribbens, W, Richardson, J, Schaack, C, Shlyapnikov, V, Šmahel, D, Soldatova, G & Wölfling, K (2015). *Young children (0- 8) and digital technology - EU report*. Publications Office of the European Union, Luxembourg.

Edwards, A., & Mackenzie, L. (2008). Identity shifts in informal learning trajectories. In van Oers, B., Wardekker, W., Elbers, E., & van der Veer, R. (Eds), *The transformation of learning* (pp.163–181). Cambridge: Cambridge University Press.

Genishi, C., & Goodwin, A. L. (2008). *Diversities in early childhood education: Rethinking and doing*. New York, NY: Routledge.

Gillen, J., & Cameron, C. A. (Eds.). (2010). *International perspectives on early childhood research: A day in the Life*. Basingstoke: Palgrave Macmillan.

Gillen, J., Cameron, C. A., Tapanya, S., Pinto, G., Hancock, R., Young, S., & Gamannossi, B. A. (2007). "A day in the life": Advancing a methodology for the cultural study of development and learning in early childhood. *Early Child Development and Care*, 177(2).

Greeno, J. G. (2006). Authoritative, accountable positioning and connected, general knowing: Progressive themes in understanding transfer. *Journal of the Learning Sciences*, 15(4), 539–550.

Gresalfi, M., Martin, T., Hand, V., & Greeno, J. (2009). Constructing competence: an analysis of student participation in the activity systems of mathematics classrooms. *Educational Studies in Mathematics*, 70(1), 49–70.

- Göncü A. & Perone, A. (2005). Pretend Play as a Life-span Activity. *Topoi*, 24(2), 137–147.
- Hilppö J., Lipponen, L., Kumpulainen, K., & Rainio, A. (2016). Children's Sense of Agency in Preschool: A Sociocultural Investigation. *International Journal of Early Years Education*, 24(2), 157-171
- Holland, D. & Lachicotte, W. (2007). Vygotsky, Mead and the new sociocultural studies of identity. In Daniels, H., Cole, M., & Wertsch, J. (Eds), *The Cambridge companion to Vygotsky* (pp. 101–135). Cambridge, U.K.: Cambridge University Press.
- Holland, D., Lachicotte, W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Cambridge. MA: Harvard University Press.
- Jyrkämä, J. (2008). Toimijuus, ikääntyminen ja arkielämä: hahmottelua teoreettis-metodologiseksi viitekehikseksi. *Gerontologia*, 22(4), 190–203. [title in english: Agency, aging and everyday life: a sketch of a theoretical-methodological framework.]
- Kucirkova, N., & Flewitt, R. (2018). The future-gazing potential of digital personalisation in young children's reading: views from education professionals and app designers. *Early Child Development and Care*. Published Online 09.04.2018. DOI: 10.1080/03004430.2018.1458718.
- Kumpulainen, K., & Lipponen, L. (2010). Productive interaction as agentic participation in dialogic enquiry. In Littleton, K., & Howe, C. (Eds.), *Educational Dialogues. Understanding and Promoting Productive Interaction* (pp. 48-63). London: Routledge.
- Kumpulainen, K., & Gillen, J. (2017). *Young Children's Digital Literacy Practices in the Home: A Review of the Literature*. COST ACTION ISI1410 DigiLitEY. ISBN: 9780902831469
- Lee, N. (2001). *Childhood and Society: Growing Up in an Age of Uncertainty*. Buckingham: Open University Press.
- Lipponen, L., & Kumpulainen, K., (2011). Acting as accountable authors: Creating interactional spaces for agency work in teacher education. *Teaching and Teacher Education*, 27(5), 812–819.
- Livingstone, S. (2016). Reframing media effects in terms of children's rights in the digital age. *Journal of Children and Media*, 10(1), 4–12.

Livingstone, S., Lemish, D., Lim, S., Bulger, M., Cabello, P., Claro, M., Cabello, T., Khalil, J., Kumpulainen, K., Nayar, U., Nayar, P., Park, J., Tan, M., Prinsloo, J., & Wei, B. (2017a). Global perspectives on children's digital opportunities: an emerging research and policy agenda. *Pediatrics*, *140*(S2), 137-141.

Livingstone, S., Kjartan, ☒, Helsper, E. J., Lupiáñez-Villanueva, F., Veltri, G. A., & F. Folkvord (2017b). Maximizing opportunities and minimizing risks for children online: the role of digital skills in emerging strategies of parental mediation. *Journal of Communication*, *67*(1), 82-105.

Marsh, J. (2014). The relationship between online and offline play: Friendship and exclusion. In Burn, A. & Richards, C. (Eds.), *Children's Games in the New Media Age: Childlore, Media and the Playground* (pp. 109–131). Farnham, Surrey, England; Burlington, VT: Ashgate.

Martin, J. (2004). Self-regulated learning, social cognitive theory, and agency. *Educational Psychologist*, *39*(2), 135–145.

Patton, M. (1990). *Qualitative evaluation and research methods*. Beverly Hills, CA: Sage.

Prout, A. (2005). *The future of childhood. Towards the interdisciplinary study of children*. London and New York: RoutledgeFalmer.

Rainio, A. (2009). Horses, girls, and agency: Gender in play pedagogy. *Outlines: Critical Practice Studies*, *11*(1), 27–44. Retrieved from <https://tidsskrift.dk/outlines/article/view/2223>

Rainio, A. P. (2010). *Lionhearts of the playworld: An ethnographic case study of the development of agency in play pedagogy*. (Doctoral Degree). Finland, Helsinki: University of Helsinki.

Rajala, A., Hilpp☒ J., Lipponen, L., & Kumpulainen, K. (2013). Expanding the Chronotopes of Schooling for the Promotion of Students' Agency. In Erstad, O., & Sefton-Green, J. (Eds.), *Identity, Community, and Learning Lives in the Digital Age* (pp. 107-125). Cambridge: Cambridge University Press.

Rajala, A., Martin, J., & Kumpulainen, K. (2016). Agency and learning: Researching agency in educational interactions. *Learning, Culture and Social Interaction*, *10*, 1-3.

Sairanen, H., & Kumpulainen, K. (2014). A Visual Narrative Inquiry into Children's sense of Agency in Preschool and First Grade. *International Journal of Educational Psychology*, 3(2), 141-174.

Stetsenko, A. (2013). Theorizing personhood for the world in transition and change: Reflections from a transformative activist stance. In Martin, J., & Bickhard, M. H. (Eds.), *The Psychology of personhood: Philosophical, historical, social-developmental, and narrative perspectives* (pp. 181-203). Cambridge, UK: Cambridge University Press.

Suoninen, A. (2014). *Lasten mediabarometri 2013. 0–8-vuotiaiden mediankäyttö ja sen muutokset vuodesta 2010. Nuorisotutkimusverkosto/ Nuorisotutkimusseura Verkkojulkaisuja 75.* [title in english: Children's media barometer. 0-8 years old children's media usage and its changes from the year 2010.] Retrieved from <http://www.nuorisotutkimusseura.fi/images/julkaisuja/lastenmediabarometri2013.pdf>

Vygotsky, L. S. (1978). *Mind in society. The development of the higher psychological processes.* Harvard: Harvard University Press.

Walkerdine, V. (1997). *Daddy's girl: Young girls and popular culture.* Cambridge, MA: Harvard University Press.