MASARYK UNIVERSITY

FACULTY OF SOCIAL STUDIES

Parenting Practices in Digital Era

Habilitation Thesis

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Abstract

The increasing presence of digital media in children's and adolescents' daily lives opens new questions for research on parenting and new challenges for parents themselves. Growing up in dominantly physical environments with distinctively different media affordances and opportunities for interactions and other behaviors, parents have to learn how to navigate and regulate their children's digital usage. This thesis focuses on questions related to parental practices in the current complex digital environment and has three broad aims. The first aim is to examine how parental mediation strategies and family environment relate to adolescents' engagement in risky online activities. The second aim is to focus on whether parental mediation and support can help parents gain better knowledge of children's online activities. Lastly, the third aim is to explore which parental factors are linked to their engagement in specific mediation strategies. The thesis is built on nine studies: one theoretical and eight empirical. The empirical studies utilize national and international survey-based data; some draw on parents' perspectives, some on children's and adolescents', and one utilizes dyadic data and combined perspectives of both actors. The results of the studies are discussed and situated within existing knowledge on (digital) parenting, and suggestions for enriching the research in this field are formulated.

Acknowledgments

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Lastly, my thanks go to all who participated in the studies that form the basis for this thesis, whether respondents, data collection preparation assistants, data managers, or funding providers.

Content

The Goal and Structure of the Thesis

The structure of this thesis is as follows: first, I introduce the general focus that interconnects the included studies: digital parenting and changes in children's development and family life that occurred due to the increased presence of digital media. I also introduce the three core research areas that this thesis explores: (1) the relation of parental mediation strategies and family environment to adolescents' online risky or problematic behavior, (2) parental knowledge of online activities generated through parental mediation and children disclosure, and (3) parental characteristics, their ICT usage and links to parental mediation preferences. This part provides a basic understanding and explanation of research problems that underlie the specific research questions examined in the individual studies.

Next, I provide a list of included studies, specify my contribution, and describe the key information about methods in each study. The methodological overview is not meant to be exhaustive, as details can be found in each study's Methods section.

Lastly, in the General Discussion, I summarize the individual studies' results and discuss the core insights related to digital parenting research. Similarly to the methodological section, this part is not exhaustive and does not describe all findings found in each study. Instead, I focus on a selection of key findings directly relevant to digital parenting and consider their limitations and directions for future research in this area. All studies' full texts are included in the Appendix.

Introduction

Children and adolescents are growing up in an increasingly digitalized world and encounter information and communication technologies (ICT) early in their lives. For instance, one-fifth of 3-year-olds in the United Kingdom own a mobile phone, and about 13% of them have an account on an online communication app or site, according to their parents (OFCOM, 2023). In the Czech Republic, 98.5% of households with children up to 15 years old had an internet connection, 98.9% had a smartphone, and 95.8% had a computer, laptop, or tablet in 2023 (Czech Statistical Office, 2024). With mandatory informatics courses in Czech primary schools (Kostolanyova et al., 2023), virtually all school-aged children have at least some experience with ICT and the internet. As children grow older, their online time increases—from about 2 hours per weekday among 9-11-year-old children to 4.2 hours among 15-16-year-old adolescents (Smahel et al., 2020).

This increased presence of ICT in children's lives, along with media affordances that enable easy access to more people, information, and entertainment, has changed profoundly the environment in which current children grow up. In the following section, I present an overview of several theoretical frameworks that attempt to conceptualize these changes.

Theoretical Background

Recognizing the growing role of ICT in family life and its influence on children's development and socialization, scholars have integrated ICT into existing theories about child development and family dynamics. For instance, several scholars proposed the incorporation of ICT into widely known Bronfenbrenner's ecological system theory (EST, Bronfenbrenner, 1979) or later updates of this theory, the bioecological model or Person-Process-Context-Time (PPCT) model (Bronfenbrenner, 2005). In this vein, Johnson and Puplampu (2008) proposed a *techno-subsystem* as a dimension of the EST's microsystem. EST conceptualizes environmental influences that affect a child's development. The microsystem is the most immediate environment where children interact. As such, it includes interactions with one's family, peers, or teachers that directly shape and are shaped by the children. Johnson and Puplampu (2008) suggested that the techno-subsystem includes "child interaction with both living (e.g., peers) and nonliving (e.g., hardware) elements of communication, information, and recreation technologies in direct environments" (para. 1). These ICT elements thus mediate the interactions between a child and the microsystems (e.g., interactions with peers). The authors stress, however, that technologies also play a part in other systems. For instance, school online portals are part of mesosystem (i.e., interconnection of microsystems) because they enable interactions among parents and teachers (two microsystems).

In a more recent adaptation of Bronfenbrenner's model, Navarro and Tudge (2023) built on PPCT and proposed a *neo-ecological theory.* Unlike Johnson and Pumpalu, they argued

that the specifics of the online environment call for differentiating two types of microsystems – virtual and physical. Bronfenbrenner's model, especially the earlier EST developed before the rapid expansion of ICT, was naturally bound in physical space. This no longer applies, as a large part of children's activities takes place online, and the interactions no longer necessitate physical proximity. The authors define the virtual microsystem as "… a pattern of activities, social roles, and interpersonal relations experienced by the developing person on a given digital platform with particular relational and symbolic features that invite, permit, or inhibit engagement in proximal processes within that environment" (p. 19341). In comparison to physical, virtual microsystem(s) have unique affordances, such as availability, a/synchronicity, publicness, permanence, or cue absence.[1] These characteristics transform the interactions and experiences that occur online, which is why the two microsystems (i.e., physical and virtual) cannot be easily conceptualized as one (which was the case for Johnson and Pumpalu). By specifying the virtual microsystem as distinct from the physical and conceptualizing it as a new, stand-alone system, Navarro and Tudge acknowledged more directly the major transformation that happened in children's development (and thus also family life) due to the omnipresence of ICT.

Stemming from the family ecological approach, Lanigan (2009) proposed the *sociotechnological family conceptual model* that captures bidirectional interactions between three overlapping components within a family (technology characteristics, individual traits of family members, and family factors), which are nested in a (fourth) component of extrafamilial influences (that capture exosystem, macrosystem, and chronosystem influences). These influences can increase or decrease the impact of ICT on the family, which originates at the intersection of the three within-family components.

In Lanigan's view, the presence of ICT represents a significant qualitative shift in a number of aspects of family lives. For instance, it brought more possibilities for family communication, allowing spontaneous and almost perpetual contact regardless of physical distance between family members. The same possibilities apply to communication with outsiders (e.g., friends) and to other online activities that can now happen from one's home, thus potentially replacing family communication and bonding. From a relational perspective, this impacts the nature and frequency of family interactions and can affect relationships among family members. Moreover, ICTs also changed more pragmatic family tasks (e.g., coordination of family activities, family planning, usage of information), accelerating family life. According to Lanigan, the core properties of technology that play a decisive role in (co)determining the ICT's impact on family are accessibility (i.e., usability of the technology), scope (breadth of family functions the technology can assist with), obtrusiveness (disruptions to family life as a result of technology), resource demand (costs of technology), and gratification potential

[1] Authors note that not all virtual microsystems necessarily offer the same affordances, thus each specific virtual microsystem might have specific set of features, and future technologies might bring additional ones

(hedonistic properties of technology). The individual component includes factors such as personality, family members' goals, attitudes, etc., whereas the family component includes factors such as family composition, stage of development, family processes (e.g., communication, as mentioned earlier), etc. All these factors influence the adoption and usage of ICTs and vice versa.

In a similar vein, Hertlein (2012) proposed a multitheoretical *couple and family technology framework* that combines three theoretical perspectives: the family ecology, the structural-functional, and the interaction-constructionist perspective. The model itself consists of three main elements – ecological influences, changes of relationship structure, and changes of relationship processes. Ecological influences capture "the properties of the Internet and interactive technologies that inspire the changes in relationships" (p. 375). Among those, Hertlein lists accessibility, affordability, anonymity, acceptability (of mediated interaction in couples and families), approximation (of real-time/face-to-face interactions and behaviors), ambiguity (of what constitutes problematic technology usage and for whom), and accommodation (provision of a space where one can be "real"). These ecological influences relate to two types of changes in relationships: changes to the structure of relationships (redefinition of rules, boundaries, and roles in couples/family) and changes to process (redefinition of intimacy, changes in relationships initiation, formation, and maintenance).

While not explicitly focused on children's development or family per se, I will also briefly mention Nesi et al.'s (2018) *transformation framework*. This framework focuses on how ICT (specifically platforms or apps used for social interactions) transformed adolescents' interactions with peers (which are crucial for their psychosocial development). Similar to Hertlein, the authors specify several features of ICT that play essential roles in how ICT impacts social outcomes and that are, according to the authors, present at much higher levels online than offline. These features include asynchronicity (time lapse between messages), availability (ease of accessing people or content regardless of physical location), permanence (of the interaction record), cue absence (the degree of physical cues related to anonymity), publicness (potential of large audience), quantifiability (presence of countable metrics of social interactions, such as number of likes, retweets), and visualness (the emphasis put on visual content, which is commonly edited). These features then transformed peer interactions in five ways. First, the frequency and immediacy of peer experiences and interactions have increased, which applies to both positive (e.g., increased availability of immediate peer support) and negative aspects of interactions (e.g., an extension of traditional bullying, which was to some extent limited to school hours, to cyberbullying, which can happen 24/7). Second, experiences and demands have amplified. For instance, the possibility of immediate interactions can translate into higher accessibility expectations, increasing the efforts in relationship maintenance. Third, the nature of the experiences has altered. The authors illustrate it with the example of provided social support, which can feel more superficial when delivered online as opposed to in-person. Thanks to the absence of cues, however, many adolescents also perceive the interactions as easier and more comfortable online. Fourth

and fifth, the new environment has allowed the rise of new compensatory behaviors for "offline" deficits (e.g., searching for new friends online) and new opportunities or experiences in peer interaction in general (e.g., displaying relationships publicly).

Notably, the authors of these selected models and frameworks all, in one way or another, stress the fast pace of this change—and I may add that two of them were published before the massive spread of smartphones, which represents another milestone in ICTs adoption (Goggin & Hjorth, 2014). Regarding family life, this rapid change also means that parents and grandparents of today's children, and particularly adolescents, grew up situated in rather distinct microsystems (primarily physical, albeit it depends on the specific generation in question) and macrosystem (i.e., different social norms and expectations, values), resulting in a notable generational gap in childhood/development experiences.

All these changes and interaction transformations associated with the digital era mean that parenting practices and other parenting aspects also have to be redefined and adjusted to accommodate ICT presence in children's and family life. At the same time, growing up in very different circumstances, parents cannot easily draw on their own childhood experiences when it comes to ICT, nor on their parents' (i.e., children's grandparents) advice in this domain, creating a specific challenge in their digital parenting (Page Jeffery, 2021). Many parents (66%) also felt that parenting today is more complicated than just two decades ago and listed technology as the main reason (Auxier et al., 2020).

This brief overview of selected new/adapted theoretical models is not meant to be exhaustive, and I kindly refer the reader to the original papers for more detailed explanations and models' specific propositions. I included it in this thesis to illustrate their similar conclusions: that ICTs permeated our lives in a way that fundamentally changed a large number of aspects of children's development and family life—from allowing more external influences and overlaps of what used to be more separated microsystems, through new opportunities of positive (but also negative) interactions and behaviors, to changes in broader society, cultural values and societal expectations (macrosystem). Consequently, new questions arise for researchers interested in parenting, such as what do parents do to account for ICT's presence in their own and their children's lives? How successful are their efforts? Which parental characteristics are linked to higher or lower involvement in children's digital media use? The studies included in this thesis look at these questions.

Digital Parenting and Parental Mediation

Digital parenting is a broad term that encapsulates parental efforts related to their children's digital media use (Modecki et al., 2022). It can thus be understood as domain-specific parenting (as opposed to general parenting). Tan et al. (2024) differentiate three dimensions of digital parenting: parental mediation, parents' use of digital media, and parents' role-modelling of digital media use. In the studies included in this thesis, I dominantly (although not exclusively) focus on parental mediation, a concept that

originated in television studies (or, more broadly, media effects studies). Parental mediation represented a parental effort to regulate children's access to and experiences with televised content (Clark, 2011). TV parental mediation was commonly conceptualized as three-dimensional: *active* (or *instructive/evaluative*) *mediation* refers to talking to the children about televised content and explaining it, *restrictive mediation* refers to setting limiting rules about viewing television, and *co-viewing* refers to the joint experience of watching same content together with children, which is, however, not accompanied with discussions or explanations of the watched content (Nathanson, 1999; Valkenburg et al., 1999). After the spread of ICT in families, these three main mediation strategies served as a starting point for research on parental mediation of ICT usage.

Television consumption, often limited to permanent physical locations, however, differs in a number of aspects compared to the interactive nature of ICT, which is largely used on personal portable devices (Livingstone & Helsper, 2008). Digital media also provide parents with new technological affordances, such as options to filter certain content automatically or monitor time spent on the device with high precision (Stoilova et al., 2023). These differences have led to the quick development of various new dimensions that (can) form "online parental mediation," i.e., parental efforts to regulate children's ICT usage.

For instance, *co-viewing* transformed into *co-using* to account for more active usage, typical for ICT, as opposed to passive consumption, typical for television (e.g., Nikken & Jansz, 2006). Some authors further argue that co-using rarely happens without interactions and discussion (i.e., discussing the activity and explaining it); thus, it should be rather understood as part of *active mediation* and not as a stand-alone strategy (Jiow et al., 2017; Livingstone & Helsper, 2008). New technical affordances allowed for *technical mediation*, i.e., using the features offered by the device (hardware and software) to control, filter, or monitor children's online activities (e.g., Livingstone et al., 2011; Stoilova et al., 2023). Different usage patterns (watching television in specific locations, such as the living room, versus having personal portable devices that the child can easily use in their bedroom without supervision) also contributed to a higher need for (non-technical) *monitoring* as a specific strategy that parents use to keep some oversight of what children do online. Monitoring includes parental activities such as checking the children's social media profiles or the messages they send and receive (Livingstone et al., 2011).

The specific conceptualization and distinction (i.e., specific parental mediation strategies or parental mediation dimensions) vary in existing research. While the aforementioned types of strategies are examined frequently, a clear consensus on a definite set of parental mediation dimensions is lacking. For instance, Kuldas et al. (2021) reviewed different parental mediation models (and associated measures)—they focus on ten selected models, which do not represent an exhaustive list of the variations we can find. The models vary in a number of dimensions (from two to seven), some offering more and others less nuanced classifications (e.g., separating restrictions into subtypes such as content restrictions and technical restrictions; Sonck et al., 2013, or differentiating

between “general” active mediation and active mediation of internet safety; Livingstone et al., 2011). Some models also included variables that reflect more general parenting or communication patterns in the family (e.g., open communication; eSafety, 2019) or demands for children’s disclosure (Glatz et al., 2018). While not included in the aforementioned review, other parental mediation models also differentiate between different styles in which specific strategies are delivered, e.g., autonomy-supportive, controlling, and inconsistent styles of active and restrictive mediation (Valkenburg et al., 2013), and we can also find parental mediation scales that are more general (focusing on mediating the “ICT” generally) or more specialized (with narrower focus, for instance, parental mediation of social media or gaming; Ho et al., 2020; Nikken & Jansz, 2006).

Despite these new specific subtypes, at its core, online parental mediation still represents a very similar underlying concept as in the case of television mediation—parental efforts that aim at regulating children’s activities and experiences with media, this time with digital ones. The intention of this regulation is commonly described as maximizing benefits and minimizing the risks and harms of using digital technologies (e.g., Talves & Kalmus, 2015), although the specific aim can differ for specific online activities. For instance, some parents may see interactions with unknown people online only as risky, disregarding any potential benefits, thus not guiding children on how to reap them and focusing only on limiting such interactions. Similarly, the specific selection of parental mediation strategy (e.g., whether or how much a parent engages in restrictions or active mediation) can depend on what online activity they focus on in any given situation (for instance, gaming during the school day versus during the weekend), as parental mediation is quite dynamic and flexible (Smahelova et al., 2017). In the studies included in this thesis, I thus focus on selected parental mediation strategies that made the most theoretical sense, given each study’s research aim and examined effects. I mainly draw from parental mediation conceptualization and measurement from the EU Kids Online project (Livingstone et al., 2011), which examined active mediation, active mediation of internet safety, monitoring, technical mediation, and restrictions, and its later, simplified updates (Smahel et al., 2020). I include specific arguments for the respective examined parental mediation strategy in each study (full texts in the Appendix).

While many existing studies on digital parenting, including mine, utilized a parental mediation framework, these strategies represent only a part of family-related factors that affect how children use and approach ICTs. In my studies, I further examined the quality of family relationships and parental support. These factors serve as indicators of a positive family environment that is linked to adolescents’ higher psychosocial adjustment and lower risk behavior, both offline and online (e.g., Kurock et al., 2022; Ryan et al., 2010; Zapf et al., 2024; Zhu et al., 2022). A wider family environment and functioning thus represent an important context for understanding the link between digital parenting and children’s online activities.

Research Aims

In my thesis, I focus on three main research areas.

First, I examine the links of parental mediation strategies and family relationships to adolescents' risky or problematic online behavior. These studies are based on the core definition of parental mediation as a strategy to regulate children's behavior (Clark, 2011). As such, in these studies, I conceptualize parental mediation as a predictor of children's outcomes. Most studies that examined children's online activities—especially at the beginning of this stream of research—focused specifically on children's risky or problematic activities, driven by risk-averse attitudes that stress the need to protect children from adverse experiences, online and offline alike (Staksrud & Livingstone, 2009). The same underlying ideas motivated research linking parental mediation (and other parenting factors) and children's behavior. Parental mediation is often defined as an effort to maximize benefits and minimize the harms of using ICT (e.g., Talves & Kalmus, 2015). Despite parents recognizing the number of benefits related to ICT usage, they also have many concerns and want their children to be safe online (Shin, 2015; Symons et al., 2020). In their mediation strategies, parents thus often target what they consider to be potentially risky or dangerous. The question of whether parental mediation strategies are indeed linked to children's risky and problematic online behavior is thus highly relevant.

In studies that examine this question in this thesis, I specifically focus on two activities/behavioral patterns: interactions with people met on the internet and excessive internet use. Interactions with unknown people online, sometimes labeled as "online strangers" (e.g., Cernikova et al., 2018), are a relatively common activity that is typically seen as risky by parents and adolescents alike (Holmes, 2009; Mascheroni et al., 2015; Smahel et al., 2020). To a large extent, this is driven by exaggerated media panic surrounding "online predators" (Mascheroni et al., 2014) rather than the actual riskiness of these interactions. Research shows that children evaluate most of these interactions as positive and harmless, although some harmful interactions are also reported (Mýlek et al., 2023; Smahel et al., 2020). Yet, the perception of risk drives parents to approach these interactions with caution and thus focus on them in their parenting efforts. This makes interactions with people online a relevant topic for studying links between parental factors and children's (risky) outcomes.

As a second topic under this research aim, I focused on children's excessive internet use, another concern stemming from frequent usage of ICTs (Boyd & Hargittai, 2013; Smahel et al., 2014). Research links excessive usage (and particularly problematic/addictive usage) to a number of adverse outcomes, including worsened psychological and social well-being (e.g., depression, stress, anxiety, loneliness, or family problems; Cai et al., 2023; Noroozi et al., 2021). While the prevalence of problematic internet use varies largely in existing research, depending, among others, on specific measures, studies agree that it affects only a minority of children and adolescents (Burkauskas et al., 2022; Kuss et al., 2014). Similarly to interactions with people met online, the risk that online activities will develop into a problematic behavioral pattern is thus low, yet parental concerns about this risk are notable (Velicu et al., 2019). Again, this makes children's excessive internet usage an interesting focal outcome in studying parental factors' effects. By focusing on the links between parental mediation and family environment and these online risks, the studies

can help understand the assumed effectiveness of the strategies, thus pointing out potential areas for improvement of risk prevention efforts.

Under the second research aim, I explore the relationships of parental mediation and parental support to parental knowledge about children's online activities and children's disclosure of unpleasant online experiences. Parental knowledge about children's whereabouts (offline, i.e., what they do after school, etc.) is an important predictor of positive adolescent adjustment and plays a crucial role in preventing externalizing and internalizing problems (Kerr et al., 2010). Studies on "offline" knowledge and parenting factors show that parental warmth (i.e., parental support, affectionate care) and behavioral control (i.e., regulation of children's behavior via setting clear rules and expectations) are linked to higher knowledge. In contrast, psychological control (i.e., parental manipulation of children's thoughts and emotions, for instance, guilt induction and shaming) is linked to lower knowledge. Part of the effect is direct, i.e., parenting styles directly impact the extent of parental knowledge. Importantly, part of the effect is indirect and goes through children's voluntary disclosure (Liu et al., 2020). Parenting styles thus impact children's decision to share the information, hence increasing or decreasing their knowledge.

Given how much time adolescents spend online (Smahel et al., 2020), parental knowledge of their children's online lives gains importance, too. Similar to "offline" knowledge, being aware of what children encounter and what they actively engage in online is an essential prerequisite of timely intervention and harm prevention. Examining which parenting factors are linked to higher and lower knowledge and children's disclosure is thus crucial. The studies included in this thesis that fall under this research aim focus on three aspects related to parental knowledge. First, I examine what parents know about their children's online experiences. Specifically, I focus on interactions with people children met online, exposure to violent content, and cyberhate victimization. This examination helps with the identification of areas where parental knowledge is currently low. Second, I link the extent of parental knowledge about the same online experiences to parental mediation strategies and parental support. Parental mediation strategies can be perceived as domain-specific parenting efforts that—analogous to parenting styles in the aforementioned "offline" stream of research—may help or hinder parental knowledge (Caivano et al., 2020; Symons, Ponnet, Emmery, et al., 2017b). Third, given the importance of children's voluntary disclosure, I also examine the link between parental mediation and support and the disclosure of children's cyberbullying victimization. As is apparent, similarly to the studies under the first research aim, I focus on potentially risky online experiences; it is these experiences and activities where parental knowledge likely plays a crucial role in mitigating harm. This role makes it especially important to understand which parental strategies enhance such knowledge.

My third aim is to explore parental engagement in parental mediation strategies and its link to other factors, such as parents' characteristics, children's characteristics, and other practices related to ICT usage in the family. This research aim is based on the

complex nature of family functioning, where multiple actors (i.e., family members) interact, situated within their specific environment (i.e., including techno subsystem or virtual microsystem; Johnson & Puplampu, 2008; Navarro & Tudge, 2023). Parental decisions for respective mediation strategy are influenced by their own as well as their partners' characteristics, such as their gender, age, (digital) competences, efficacy, or ICT-related attitudes and usage patterns (e.g., Livingstone et al., 2017; Sonck et al., 2013). Children themselves also play an essential role. Parental perceptions of children's skills, their specific usage of ICT, children's age, gender, and other characteristics also determine specific parenting choices (Smahelova et al., 2017; Symons, Ponnet, Emmery, et al., 2017a).

The studies under this research aim thus tap into the relationships between parental mediation strategies and other family-related factors. By doing so, the studies help us better understand which parents tend to use or not use respective parental mediation strategies. Because parental mediation can help equip children with crucial digital skills (e.g., Livingstone et al., 2017; Shin & Lwin, 2017), studies examining mediation's broader associations can serve as an important knowledge base for targeted interventions and identification of at-risk families.

This section briefly summarized the overall goals and core argumentation in each area. A more detailed argumentation can be found in each included study (see Appendix).

List of Studies and Author's Contributions

This section provides an overview of the included studies, with the specification of my contribution. The habilitation thesis comprises nine texts: one theoretical chapter and eight empirical articles. I was a leading author of four, the second contributing author of three, and the third contributing author of two. All empirical articles were published in journals indexed in Web of Science.

Studies 1-5 focus on the role of parenting factors in shaping children's behavior (first research area), studies 6 and 7 examine parental knowledge about children's online activities (second research area), and studies 8 and 9 focus on engagement in parental mediation strategies and their links to other family factors (third research area).

Study 1:

Dedkova, L., Machackova, H., & Smahel, D. (2022). Information and communication technologies and well-being. In D. Lemish (Ed.), *The Routledge international handbook of children, adolescents, and media* (2nd ed., pp. 185-193). Routledge.

Contribution: 40%, Conceptualization, Writing - Original Draft

Study 2:

Dedkova, L., & Mýlek, V. (2023). Parental mediation of online interactions and its relation to adolescents' contacts with new people online: The role of risk perception. *Information, Communication & Society 26*(16). https://doi.org/10.1080/1369118X.2022.2146985

Contribution: 85%, Conceptualization, Methodology, Formal analysis, Writing - Original Draft

Study 3:

Mýlek, V., **Dedkova, L.,** & Smahel, D. (2023). Information sources about face-to-face meetings with people from the Internet: Gendered influence on adolescents' risk perception and behavior. *New Media & Society, 25*(7), 1561–1579. https://doi.org/10.1177/14614448211014823

Contribution: 20%, Conceptualization, Writing - Original Draft, Writing - Review & Editing, Supervision

Study 4:

Mýlek, V., **Dedkova, L.,** & Machackova, H. (2020). Factors influencing interactions between adolescents and unknown people from the internet: Findings from five European countries. *Children and Youth Services Review, 114*. https://doi.org/10.1016/j.childyouth.2020.105038

Contribution: 30%, Conceptualization, Methodology, Supervision, Writing - review & editing

Study 5:

Mikuska, J., Smahel, D., **Dedkova, L.,** Staksrud, E., Mascheroni, G., & Milosevic, T. (2020). Social relational factors of excessive internet use in four European countries. *International Journal of Public Health, 65*(8), 1289-1297. https://doi.org/10.1007/s00038-020-01484-2

Contribution: 15%, Conceptualization, Methodology, Writing - Review & Editing

Study 6:

Geržičáková, M., **Dedkova, L.,** & Mýlek, V. (2023). What do parents know about children's risky online experiences? The role of parental mediation strategies. *Computers in Human Behavior, 141*, 107626. https://doi.org/10.1016/j.chb.2022.107626

Contribution: 40%, Conceptualization, Methodology, Writing - Original Draft, Supervision

Study 7:

Cerna, A., Machackova, H., & **Dedkova, L.** (2016). Whom to trust: The role of mediation and perceived harm in support seeking by cyberbullying victims. *Children & Society, 30*, 256-277. http://dx.doi.org/10.1111/chso.12136

Contribution: 15%, Conceptualization, Methodology, Writing - Review & Editing

Study 8:

Dedkova, L., & Smahel, D. (2020). Online parental mediation: Associations of family members' characteristics to individual engagement in active mediation and monitoring. *Journal of Family Issues, 41*(8), 1112-1136. https://doi.org/10.1177/0192513X19888255

Contribution: 80%, Conceptualization, Methodology, Formal analysis, Writing - Original Draft

Study 9:

Dedkova, L., Smahel, D., & Just, M. (2022). Digital security in families: The sources of information relate to the active mediation of internet safety and parental internet skills. *Behaviour & Information Technology, 41*(5), 1052-1064. https://doi.org/10.1080/0144929X.2020.1851769

Contribution: 80%, Conceptualization, Methodology, Formal analysis, Writing - Original Draft

Methods

This section summarizes the methods used in the included studies. Since each empirical study has a dedicated methodology chapter, this section will focus only on basic information related mainly to the description of the sample used in the respective study, sampling strategy, and analysis. More detailed information (e.g., about measures) is included in the full texts of studies (see Appendix).

Study 1 is a chapter that provides a conceptual model of ICT's impact on children and adolescents' well-being. It is based on a (non-systematic) literature search of international studies and reviews that concerned links between children/adolescents' ICT usage and psychological well-being (e.g., depression), social well-being (loneliness), and physical well-being (quality of sleep).

Study 2 and **Study 3** used the data collected in 2019 from adolescents aged 11-17 years. The data collection took place in 32 randomly selected schools (72 classes) of the South Moravia region of the Czech Republic. The questionnaire was filled in online during one lecture in the presence of a trained research assistant who introduced the research project. Prior to attending the schools, consent forms were sent to the children's parents, and only children who delivered signed forms and provided their own consent participated in the study. The final sample included 1,031 adolescents (M_{age} = 14.08, SD = 1.44, 54% females). To answer the research questions, both **Study 2** and **Study 3** used structural equation modeling.

Study 4 and **Study 5** used data from an international survey, EU Kids Online IV (Smahel et al., 2020). The data was collected between 2017 and 2019 in 19 European countries from 25,101 children and adolescents aged 9-17 years. National data collection (including adherence to national ethical standards) was the responsibility of each country; thus, the sampling varied from school sampling, household sampling, and online panel (for more information, see Zlámal et al., 2020). In **Study 4**, five countries that used a comparable sampling strategy (i.e., proportional stratified random-clustered sampling of schools) were selected (Spain, the Czech Republic, Serbia, Finland, and Switzerland). Only those participants' reports whose questionnaires included the needed items were used in the analysis (age range 11-16[2] years old, M_{age} = 13.44, SD = 1.62, 50.4% females). In **Study 5**, we used a subsample of four countries (the Czech Republic, Norway, Italy, and Serbia) that represented a diverse sociopolitical spectrum of European countries. Further, we only examined older participants (12-17 years old) as younger participants' questionnaires in the selected countries did not include all measures needed to answer research questions. The total sample thus included 4,104 children and adolescents (M_{age} = 14.40, SD = 1.65, 50% females). To answer the research questions, **Study 4** used multinomial logistic regression, and **Study 5** used structural equation modeling.

[2] Not all of the selected countries collected the data from 17 years olds, thus this age cohort was excluded

Study 6 utilized dyadic data from a first wave of longitudinal data collection on adolescents aged 11-16 years and one of their parents or caregivers. The data was collected by a professional research agency, Stemmark, in 2021. The agency used the online panel to recruit eligible caregivers. Quotas were set to obtain a sample representative of Czech households with children in terms of household socioeconomic status, region (based on NUTS-3), and municipality size. Balanced representation of adolescents' gender and age was also ensured. Informed consent was obtained from both parents and adolescents online by clicking on the respective link. From a total of 3,087 dyads who participated in the first wave, **Study 6** used a subsample of parents or step-parents; thus, we excluded other informants (e.g., other relatives who were not primary caregivers). The final sample included 2,946 dyads of adolescents (M_{age} = 13.5, *SD* = 1.74; 50.2% males) and parents (M_{age} = 43.3, *SD* = 0.67, 67.5% mothers). To answer the research questions, **Study 6** used linear and ordinal regressions.

Study 7 used the data from an international survey, EU Kids Online II (Livingstone et al., 2011). The data was collected by a professional research agency (Ipsos MORI) in 2010/11 using a random stratified sampling of households. In each of the 25 European countries, approximately 1,000 children aged 9-16 years participated, yielding a total sample of 25,142 children. Written informed consents were obtained from parents and children. Questionnaires were administered by trained assistants in the households. **Study 7**'s focus was on victims of cyberbullying; thus, the study used a subsample of children and adolescents who reported experiencing cyberbullying incidents in the past twelve months (*N* = 1,395, M_{age} = 13.18; *SD* = 2.10, 58.9% females). To answer the research questions, **Study 7** used multinomial logistic regression.

Study 8 and **Study 9** rely on the survey conducted among parents or guardians of 5-17-year-old children. The data was collected in 2016 in cooperation with professional research agency Toluna, which used its pool of online panelists to invite eligible respondents (i.e., adults living in a household with at least one child in the age range of 5-17). Quotas were used to ensure a balanced representation of respondents' (i.e., adults') gender and the gender and age of a child that the adult respondents bear in mind when answering child-related items. Informed consent was obtained online by clicking on the respective link. In total, 450 surveys were collected. Since both studies concerned research questions related to the distribution of digital parenting between the two parental figures, both studies utilized only a subsample, excluding respondents who (a) were not parents or step-parents (i.e., other relatives), (b) were single parents, and (c) where the respective child did not yet use the internet. This led to a final sample of 238 parents aged 21-69 (*M* = 41.26, *SD* = 7.62; 53.4% females) with children aged 5-17 (*M* = 10.82, *SD* = 3.67; 54.6% females). To answer the research questions, **Study 8** used linear regression, and **Study 9** used latent class analysis with subsequent class comparisons.

Discussion and Conclusions

This thesis had three broad research aims - to add to the knowledge on (1) what parenting factors relate to children's engagement in risky online activities, (2) how parenting factors relate to parental knowledge about risky online activities or unpleasant experiences, and (3) how parents engage in parental mediation strategies and what factors (co)determine their parental mediation strategies preferences.

In the first part of this section, I will briefly describe the results from each study that are relevant to these research aims. Some studies also focused on other aspects of children's and adolescents' ICT usage, unrelated to parenting. I will not present these results here and refer the interested readers to the studies' full texts (see Appendix). The overall patterns of results are then synthesized and discussed in the second part of this section.

Research Aim 1: Parental Role in Shaping Children's Online Activities

From a conceptual perspective, **Study 1** (the theoretical chapter) provides a basic understanding of the role digital parenting plays in children's online activities and experiences.

Build on the Differential Susceptibility to Media Effects Model (DSMM; Valkenburg & Peter, 2013), **Study 1** provides a conceptual model of how ICT usage impacts children's well-being. The model presents several types of variables and stresses their mutual interplay that determines the resulting impact on well-being. In this model, the ICT usage is in the middle. It is affected by (1) individual-level variables (e.g., children's age, gender, skills, other psychological characteristics, including specific vulnerabilities), (2) social-level variables (e.g., peers, family, community), and (3) country-level variables (e.g., cultural values, ICT infrastructure). The specific ICT usage, which can be described in several dimensions (e.g., active/passive, social/non-social, excessive/balanced), then impacts short-term and long-term well-being (e.g., happiness, loneliness). The model stresses that the effects are often bi-directional and, in essence, run in a circle: the well-being variables (the main outcome) subsequently serve as individual-level variables (i.e., predictors) for the following ICT usage. At the same time, the effects are typically conditional: individual, social, and country-level factors may serve as moderators, affecting the relationship between ICT usage and well-being.

As should be clear, the model is rather complex, and no single study could probably utilize it in its entirety. The model's aim was not to provide specific predictions about effects, since these can differ for each type of well-being and each particular well-being indicator[3]. To predict specific effects, research needs to rely on theories that fit neatly into each given area, and (re-)specify the model accordingly. Instead of providing specific predictions, **Study 1**'s hope was that the model could be helpful as a basic guide to position the examined variables in the complex interplay of factors contributing to children's and

[3] In our conceptualization, we used WHO's typology (World Health Organization, 2001) of psychological, social, and physiological well-being, but other conceptualizations exist, e.g., Cooke et al., 2016)

adolescents' well-being. It can thus be used to pinpoint the position of digital parenting in the empirical studies included in this thesis. In the model, parents and their parenting efforts, family relationship quality, and parental support belong to the social-level variables that affect what children do online. This is the position that parenting variables occupy in **Studies 2-5**. These studies address parenting variables as predictors of children's online activities or experiences.[4]

In particular, I focused on adolescents' online and offline interactions with people met on the internet (**Studies 2-4)** and excessive internet use (**Study 5**). These activities or experiences are frequently considered risky or problematic due to their presumed negative impact on well-being (e.g., Mascheroni et al., 2015). As such, these activities tend to be targeted by parents in their parental mediation strategies, and consequently, they can serve as good exemplar activities to test whether the parental efforts indeed link to the expected outcomes (i.e., lower engagement in such activities). However, it is important to stress that the mentioned impact of these activities on children's well-being is only *presumed,* and there are studies that problematize these effects. For instance, most interactions with unknown people online are not perceived as negative or harmful by adolescents who engage in them (Mýlek et al., 2023; Smahel et al., 2020). Similarly, excessive internet use (especially when measured on a scale as a continuum) should not be automatically understood as addiction (i.e., highly problematic), even though it has more empirical support for adverse effects than interactions with unknown people (Salmela-Aro et al., 2017; Widyanto & Griffiths, 2006).

Studies 2-4 examined parental factors in relation to adolescents' risky interactions with new people online. Bearing in mind levels of online interactions that differ in contact intensity (Cernikova et al., 2018), **Study 4** focused on comparisons of adolescents who did not engage in any interaction with unknown people online with people who interacted with them only online, and the latter were then compared also to those who met someone from the internet offline (face-to-face, in the physical world). This study showed that the quality of family relationships did not differentiate between the first two groups of adolescents, but a greater quality of relationships decreased the chances that those who interact online will also proceed to an offline meeting. In the study, we interpreted this effect in line with the social compensation hypothesis (McKenna et al., 2002)—adolescents lacking quality relationships offline may search for them online (and consequently meet with the new contacts face to face). If we consider face-to-face meetings as a risky activity, we could, however, also see the quality of relationships in the family as a protective factor that lowers children's engagement in it.

[4] I acknowledge that parent-child relationship quality, support and other factors can also be conceptualized as part of social well-being outcomes of ICT activities (for instance, lower relationship quality as a result of parental phubbing), and thus be positioned ad the „end" of the model. Similarly, they could function as moderators, strengthening or weakening links between ICT activities and well-being. Since I did not focus on these positions in the studies included in this thesis, I do not emphasize it in the text further.

Study 3 focused on the link between different sources of advice related to meeting unknown people from the internet, and showed that advice from parents was effective only among adolescent girls, but not among boys. For girls, receiving such advice from parents was linked to lower face-to-face meetings, and the effect was mediated by higher risk perception about these meetings. **Study 2** also focused on indirect effect via adolescents' risk perceptions, but instead of information source, the study addressed active and restrictive parental mediation of interactions, and considered adolescents' interactions with unknown people that happened online (i.e., not necessarily accompanied by a subsequent face-to-face meeting with the respective person). The study showed that active mediation had no effect, whereas restrictive mediation was connected to lower online interactions. This effect was mediated by (higher) adolescents' perceptions of interactions' riskiness, i.e., those adolescents who reported higher restrictions of interactions by parents perceived these interactions as more risky, and engaged in them less.

Study 5 focused on different online risk, excessive internet usage. Based on Interpersonal Acceptance-Rejection Theory (Rohner, 2021), the study examined the link between the quality of family relationships and excessive internet usage via links to adolescents' emotional problems and their preference for online social interactions. The results show that poor parent-child relationships are connected to higher excessive use through higher emotional problems and a higher preference for online interaction. Similarly to **Study 4**, this study thus points to the quality of family relationships as a protective factor that can lower adolescents' online risky behavior.

Altogether, the **Studies 2-5** thus show that parental factors—be it the quality of relationships, their advice, or parental mediation strategies—indeed have the potential to shape adolescents' online behavior and experiences, as conceptualized in the model in **Study 1**. However, the studies also point out that these effects are nuanced and may depend on the specific risky activity and the specific parental intention, or children's characteristics.

Research Aim 2: Parental Knowledge Through Parental Mediation and Adolescents' Information Disclosure

Studies 6 and **7** (which fall under the second research area related to parental knowledge) still consider parenting variables as predictors, but do not focus directly on children's ICT usage as outcomes (nor their well-being). Both studies consider parental knowledge about online activities (**Study 6** targeting it directly, **Study 7** via children's disclosure). While our model from **Study 1** did not consider these variables specifically, children's disclosure and parental awareness of children's (offline) whereabouts are well-known factors positively linked to adolescents' adjustment (i.e., well-being) in family studies (e.g., Kerr et al., 2010; Racz & McMahon, 2011). The focus on parental knowledge can serve as a good example of how the general model from **Study 1** can be adjusted and enriched to correspond well to the specific aim of the study - parenting, in my case.

In **Study 6**, which utilized dyadic data from adolescents and one of their parents, I focused on the potential of parental mediation strategies to serve as knowledge-generating practices. The study used two conceptualizations of parental knowledge. The first one, perceived knowledge, was more subjective and represented how much parents feel they know about what their children do online. For the second, we compared parents' and children's reports on engagement in selected risky online activities to find out their/in-congruence, i.e., the congruence represented a comparatively more objective parental knowledge than the previous one (albeit both parent and adolescent reports were still self-reported via survey). **Study 6** found that active mediation was linked positively to both knowledge types, and restrictions were unrelated to both when assessed in a regression model (but it was associated positively with perceived knowledge in a bivariate correlation). Interestingly, monitoring and technical mediation's effects varied depending on the type of knowledge. Monitoring was linked to higher perceived knowledge but unrelated to objective knowledge. Technical mediation was also linked to increased perceived knowledge, but at the same time to lower objective knowledge. **Study 6** also examined the role of parental support (reported by children), which showed positive links to both types of knowledge.

Study 7 had a more specific focus on only one online risk—cyberbullying victimization. The study examined children and adolescents with this experience, and focused on whether they confided in parents, peers, both, or no one. In a multinomial logistic regression, restrictive mediation had no effect. In contrast, active parental mediation was connected to higher chances to confide in parents (and both parents and peers) than in no one. The study also addressed parental perceived knowledge and children's tendency to seek social support from parents as predictors of confiding – both were connected to higher chances of telling parents (and both parents and peers) about the victimization experiences. Further, correlations showed that children and adolescents who reported their parents knew more about what they did online (i.e., perceived knowledge) were younger and reported higher active mediation as well as restrictions.

These two studies thus show that parental mediation, especially active mediation, and supportive parent-child relationships can facilitate information sharing between parents and children. The findings, however, also point out that some parental mediation strategies have more complex relationships with knowledge. Restrictions were related to higher perceived knowledge in bivariate correlations both in **Study 6** and **7**, but not to objective knowledge, and not when other predictors were taken into account in a more complex regression model in **Study 6**. Restrictions also did not have any effect on confiding in parents for victimized children and adolescents in **Study 7**. Monitoring and technical mediation related positively to perceived knowledge, but they did not seem to help with the objective knowledge. Except for active mediation, which had a consistent effect in both studies (higher knowledge), other parental mediation strategies may thus equip parents with a false sense of knowledge rather than actual knowledge, especially when their child experiences something bothersome online.

Research Aim 3: Choices of Parental Mediation Strategies

Studies under this research area tackle parental engagement in mediation strategies and their associations with other variables. Conceptually, these studies see parental mediation as an outcome rather than a predictor. Besides parental own personal predispositions and skills, that affect their parenting, they also react to what children do online, how children behave, what personality characteristics they display—the children themselves are major factor determining specific parenting practices (Belsky, 1984), which is the case also for parental mediation (Padilla-Walker & Coyne, 2011; Smahelova et al., 2017). This was the perspective undertaken in Study 8, which considered parental mediation (active mediation and monitoring specifically) as an outcome of parents, parents' partners, and the child's variables. From a surveyed parent factor, being a mother rather than a father and having higher internet skills were linked to higher engagement in both examined mediation strategies. For active mediation, partners' internet skills and ability to help the children when something bothers them online mattered—both were linked to lower engagement in active mediation by surveyed parents. However, the same partner's variables made no difference in the case of monitoring. Contrary to partner's factors, children's factors (age, online activities) played a role in monitoring (the oldest age group was monitored less, and those with a broader range of online activities were monitored more), but not in the case of active mediation.

Study 9 examined sources used for information about digital security by surveyed parents and linked the resulting classes of parents to their engagement in parental mediation (active mediation, active mediation of internet safety, technical mediation, monitoring, restrictions; Livingstone et al., 2011). Like **Study 8**, the study also looked at surveyed parents' and their partners' skills. We found out that those parents who used specialized sources for information about digital security tended to have the highest internet skills, and they also engaged in active mediation of internet safety more. There were no links for preferred sources to other parental mediation strategies, suggesting that the other ones do not require specific knowledge. We also identified parents who relied heavily on their partners for digital security information; these parents tended to have lower internet skills themselves, but they also had high skilled partners, who seem to serve as a security "guru" (Poole et al., 2009), i.e., a go-to person, who is responsible for gaining the digital security information and applying it to practice within family (by active mediation of internet safety).

Together, these studies show that choices of specific parental mediation strategies have a number of correlates in the whole family system. Characteristics and wider practices related to ICT usage of all family members are linked to parental mediation, although the specific relationships may differ for each respective strategy and predictor.

General Discussion and Future Directions

As noted, studies included in this thesis revealed several important findings related to digital parenting, thus enriching the existing knowledge base. The individual results are

discussed in detail in each included study, so here, I will focus on key remarks that relate to the general pattern in findings across the studies.

In particular, while the studies show that various general and digital parenting factors relate to hypothesized factors on parents' and children's sides, they also show that these effects are nuanced and far from consistent. This general finding is not surprising—many published studies conclude the same. Similar to **Studies 2 and 6-9** in this thesis, studies show the effects only for some (but not all) parental mediation strategies, and it is not uncommon to see research that points in the opposite direction of the effects. For instance, (Keyzers, 2021) examined the effects of active mediation and restrictions on adolescents' risky online interactions (i.e., the same outcome as **Study 2**), and found that only active mediation had an effect (i.e., the opposite pattern of effects). Shin and Lwin (2017) explored active mediation from parents, peers, and teachers, and their effect on adolescents' online risks. They found that parental active mediation had no effect, peer mediation increased engagement in online risks, and teacher mediation lowered it. The inconsistencies are regularly emphasized in systematic literature reviews and meta-analyses in this area, too (e.g., Elsaesser et al., 2017; Lukavská et al., 2022; Stoilova et al., 2023). Multiple reasons likely play a role here.

As noted in the Introduction, there is no consensus on what specific factors and dimensions constitute the broader term "digital parenting" or the more specific term "parental mediation strategies" (Kuldas et al., 2021). Consequently, their measurement in research also widely varies, which clearly contributes to variation in the findings (Modecki et al., 2022). Perhaps more importantly from a methodological standpoint, most of these studies are cross-sectional, and this is also a limitation in the studies included in this thesis. Parental mediation is defined as an effort to regulate children's online activities (Livingstone et al., 2017; Valkenburg et al., 2013). When it comes to children's online behavior, parental mediation is thus expected to be one of its determinants, and this expectation typically underlies studies that link mediation strategies and children's behavior. Yet, it is children and their behaviors, characteristics, attitudes, and skills that also determine parenting practices (Belsky, 1984). In the current digital age, this also applies to how they approach ICT and what they do online: parents evaluate their children's ICT usage and adjust their parenting efforts (e.g., Smahelova et al., 2017). When they encounter something they perceive as potentially problematic, they may engage more in active mediation to explain their perspective to their children and teach them how to avoid eventual harm, and they may engage in restrictions to lower their children's engagement in the respective activity directly. They may also increase their monitoring and technical mediation to ensure the children follow the agreed rules, and the perceived risk is successfully dealt with. When we look at the research findings from this perspective, some of the worrying findings (e.g., that higher restrictions are related to increased online risks (Shin & Ismail, 2014), can be also interpreted in a more positive light: that parents whose children engaged in risky activity reacted by higher restrictions in an effort to help, rather than that higher restrictions backfired and led children to embrace more risks. The potential bidirectional effects do not relate only to the

examination of digital parenting and children's behavioral outcomes, but also to cognitions—risk perception or parental knowledge (that both can be affected by specific digital parenting, but also function as digital parenting practices' drivers).

To disentangle these possible bidirectional effects and enhance our knowledge about parenting effects on children's online behavior and cognition, we urgently need more longitudinal studies. Some studies utilizing this design exist. For instance, Van den Heuvel et al. (2012) explored internet-specific parenting and its impact on meeting online contacts offline on two-wave panel data. They found that parental rules about content and restrictions related to excessive use reduced adolescents' face-to-face meetings. Using two-wave data, Choo et al. (2015) found that parent-child closeness reduced pathological symptoms of gaming, but restrictions had no effect. Again, on two-wave data, Koning et al. (2018) found that talking with parents about internet use (i.e., active mediation) had no effect on symptoms of social media disorder, and that gaming restrictions reduced the symptoms, but only among adolescent girls. Baumgartner and Valkenburg (2010) examined adolescents' perceived risks and engagement in risky online sexual behavior. On two-wave data, the authors show that perceived vulnerability and riskiness lowered risky behavior, but perceived benefits did not (the study did not address parenting, but I mention it since it is one of the few longitudinal studies tapping into online risk perceptions). Using three waves and a random-intercept cross-lagged panel model (RI-CLPM), Geurts et al. (2024) showed that parental restrictions did not impact adolescents' problematic social media use symptoms; however, an increase in symptoms was followed by a decrease in rule-setting and an increase in reactive restrictions (i.e., parental "in the moment" efforts to limit the internet use) one year later. From an analytical standpoint, RI-CLMP is considered more appropriate than cross-lagged panel models (Hamaker et al., 2015), which may conflate within and between-person variance, thus biasing the results. Unfortunately, research on digital parenting and its impact on children's online behavior or related cognitions using RI-CLPM is extremely limited. Currently, we thus still do not have robust evidence supporting the assumed causal effects. Future research should thus employ methods that allow causal conclusions (or at least conclusions about temporality), which would tremendously help both theoretical advancement and practical implications for digital parenting.

However, methodological and analytical approaches are not the only explanations for the inconsistent results we see in parental mediation research. From a theoretical standpoint, there are at least two more aspects worth mentioning: first, whether we examine the "correct" outcomes (or, in other words, whether the same outcome is meaningful for all types of parental mediation strategies), and second, whether it make good sense to assume the same effects on all families or children.

Regarding the first, research on digital parenting dominantly stems from risk-mitigating perspectives, and thus largely examines online risks or problematic usage patterns and the ways children could be shielded from such experiences (Modecki et al., 2022). This could be linked to various media panics that typically surround the spread of new

technologies in society (and families)—from radio, television, to the internet (Drotner, 1992; Hughes & Hands, 2001). Even though parental mediation tends to be described as an effort to minimize risks and maximize benefits (e.g., Livingstone et al., 2017), quantitative research rarely focuses on links to benefits. However, when asked, parents acknowledge many benefits brought by ICT—digital technologies can help their children to learn new skills, gain information, socialize, or provide entertainment (e.g., Kaur Hansaram, 2019; Symons, Ponnet, Walrave, et al., 2017). Some specific digital parenting practices, such as restrictive mediation, fit this risk-avoidance approach more than others. Restrictions' nature lies in limiting the ICT usage, thus lowering exposure to problematic (but also beneficial) content (Livingstone et al., 2017). For restrictions, the focus on children's engagement in online risky behavior makes good theoretical sense (even though researchers should also focus on the impact of restrictions on the benefits). Other strategies, on the other hand, focus on more nuanced aspects of ICT usage. Active (or instructive, evaluative) mediation targets (among others) children's understanding of what happens online, their skills and coping, and more directly focuses also on benefits (one of the items that assesses active mediation in EU Kids Online, for instance, focuses on how often parents encourage children to learn new things online). In this case, the focus on engagement in risky activities makes less sense: this strategy does not directly target the mere exposure to or engagement in risky activities; it targets, instead, the way children cope with such a situation: how they recognize, critically evaluate, and deal with problematic online situations.

A more specific example that I focus on in this thesis is interaction with new people online (sometimes labelled as "online strangers"). This is traditionally seen and treated as a risky activity (e.g., Shin & Lwin, 2017; Soh et al., 2018). Banning such interactions (i.e., restrictions) targets the frequency of children's interactions, but active mediation may include instructing children to recognize and avoid only specific types of interactions (e.g., interaction with adults), teach children how to behave during these interactions (e.g., what information or photos can and cannot be shared), or what to do when such interaction turns out to be uncomfortable (e.g., blocking the person, flagging the profile). As such, active mediation may not always be directly linked to the frequency of the interactions, but rather to more nuanced aspects of engagement in these interactions or to coping strategies children utilize if the interaction becomes problematic. A similar argument can be made about the number of online risks. The mismatch between the measured outcome (what we address in a study) and the intended outcome (what parents aim to do with their parental mediation efforts) could explain why we often see nonsignificant (or unexpected opposite direction) results in cross-sectional, but also longitudinal studies.

The important takeaway is that researchers who wish to explore the effectiveness of digital parenting practices should be more mindful about the theoretical reasoning behind the expected effects of each strategy (what exactly the respective strategy targets) and select the outcome on the children's side accordingly.

The second issue surrounds the question of conditional effects, which is currently highly debated in many fields. In particular, the question of media effects on well-being is highly relevant to digital parenting, since, as noted, parental mediation is often defined by an effort to increase benefits and reduce harm (e.g., Talves & Kalmus, 2015). While the current research still does not have answers as to what moderators matters the most, the researchers generally agree that the effects *are* conditional (see **Study 1**), i.e., same activity may have positive effects on some, negative on others and none on the rest (e.g., Course-Choi & Hammond, 2021; Valkenburg et al., 2022). Here, parenting is one of the potential moderators that could affect ICT's effects on well-being, with studies pointing to the protective role of positive parenting (i.e., parental warmth, responsiveness) and the harmful role of parenting with high psychological control, harsh or inconsistent parenting (e.g., Vossen et al., 2024). However, the effects of general parenting on children's outcomes can be conditional too (e.g., Belsky, 1984; Frijns et al., 2020), which also applies to digital parenting. For instance, the umbrella review of research on digital parenting (Tan et al., 2024) identified several groups of moderators, including child demographics, media types and online risks, culture, general parenting, or methods (measurement, informants). Overall, it seems that restrictions are more effective for younger children (as opposed to older adolescents, where restrictive mediation appears to have the potential to backfire), whereas active mediation seems to work more for girls (however, the gender effect was not very consistent). General parenting styles impact the links between digital parenting practices and children's outcomes in a similar way, as already noted in the effect on the link between ICT and well-being. Future studies should thus focus more on identifying which moderators play a key role in the link between digital parenting and children's outcomes. This is especially important given that some moderators may not only weaken or strengthen the effect but also change its direction from positive to negative or vice versa.

As is apparent, research on digital parenting still has a number of challenges ahead, both from the methodological and theoretical sides. Currently, parents face another challenge in their lives: the quick adoption and impact of generative AI (GAI), and the question of how they should address it in their digital parenting (Eira et al., 2025). The research is only in its initial phases, and we have yet to understand the specific effects GAI can have on children's and especially adolescents' development. Yu et al. (2025) suggested a useful taxonomy of GAI risks for youth, stemming from privacy issues, through biased information and advice, normalization and support of problematic behaviors, to various forms of misuse. A lot of these potential risks and harms are relatively subtle. For instance, authors mention that because GAI is programmed to be agreeable and patient, (social) interaction with it does not include friction or negotiations. As such, it does not necessitate social skills or empathy on the user's side, which is crucial in human interaction. Over-reliance on GAI may consequently hinder the development of these skills. These subtle influences of GAI may be hard for parents to grasp and regulate. Of course, GAI also brings a number of potential benefits that, similarly to risks, have yet to be examined. From a research perspective, this will be highly challenging. Social media are considered to be a

moving target, complicating research efforts (especially longitudinal ones). Yet, in comparison to social media, GAI development is even more rapid. Addressing this new technology will be an important avenue for future research in digital parenting, both from a methodological and theoretical perspective.

Limits

The studies included in this thesis have several limitations; the specific ones are described in each study. In this part, I would like to emphasize the cross-sectional nature of data collections. This limit applies to all of these studies, but it is particularly important for studies under research areas 1 and 2, which aimed to examine how parenting variables shape children's online behavior and their disclosure about online experiences. In its core, this examination is built on the expectation of causal effect(s) – parents practice specific parental efforts (parental mediation) in hopes of impacting their children, and the research that considers children's behavior as the outcome variable essentially hopes to capture and test this impact. While the studies included in this thesis paid attention to the theoretical justification of the expected direction of the effect, the opposite direction cannot be ruled out. As noted in the Introduction and General discussion, children's behavior can be shaped by parenting, but parenting is shaped by children's behavior, and this applies in the ICT domain as well. Currently, I am working with longitudinal data and will address this limit in my future studies.

Conclusions

This thesis presented a compilation of selected studies that examined the issue of digital parenting and its links to children and adolescents' online activities and experiences, as well as other closely related variables. Its overall aim was to enrich the literature by focusing on three areas: how digital parenting is linked to children's online behavior, how it is related to children's disclosure of problematic or unpleasant online experiences, and what factors (co)determine parents' engagement in the respective digital parenting practices.

The studies showed that digital parenting indeed relates to the specified outcomes and predictors, yet it also pointed to a complex nature of these relationships. Positive parenting (parental support) and encouraging advice (active mediation) seem to help, especially with information flow between parent and adolescent, thus also helping with early identification of potential problems adolescents can face online. Restrictive efforts seem to play a more important role in the frequency of engaging in online risky activities, possibly through increasing adolescents' risk perceptions, thus affecting their own decision not to engage in the respective behavior. Monitoring or technical mediation seems to have the potential to provide parents with a subjective sense of knowing what their child encounters online, yet they do not seem to facilitate the "real" knowledge, especially when it comes to potentially risky experiences.

Future research should focus more on disentangling these different links, utilizing robust research methods, such as longitudinal studies.

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