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Digital Parenting in Adolescence

A Socio-Ecological Analysis of Parental Practices and Interpretations

Doctoral School of Sociology and Communication Science

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Doctoral Dissertation

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1. Introduction

Over the past decades, the rapid spread of digital technologies has fundamentally reshaped everyday life, including the most intimate sphere of social interaction: the family. Mobile devices, online platforms, and permanently connected communication environments have become part of daily routines, influencing how parents and children spend time together, how they communicate, and how they interpret responsibilities related to upbringing. Digital technologies offer new opportunities for learning, entertainment, and connection, yet they also introduce new uncertainties. Parents are increasingly expected to guide their children in digital environments they did not grow up with, where norms and risks are often unclear (Livingstone & Blum-Ross, 2020). As a result, children's technology use has become a visible and socially evaluated aspect of contemporary parenting, where parents make decisions about their own family life and also reflect on whether they are acting as responsible parents.

These developments occur in a broader social context characterized by rising expectations of parenting. In many Western societies, good parenting is increasingly understood as an intensive, future-oriented activity that requires constant attention, emotional involvement, and informed decision-making (Hays, 1996; Lee et al., 2023). Parents are expected to support their children's development, prevent potential risks, and prepare them for future success, often amid uncertainty and conflicting expert advice (Hays, 1996; Lee et al., 2023). These expectations are particularly evident in relation to digital technologies, which place additional responsibility on parents to guide children in rapidly changing environments (Livingstone & Blum-Ross, 2020).

Despite the growing body of research on parental mediation and digital media use, digital parenting is still often treated as a set of individual strategies rather than as a socially embedded process shaped by family dynamics, institutional expectations, and broader cultural narratives. This dissertation argues that digital parenting in adolescence can be best understood within a socio-ecological framework. Parenting practices do not arise solely from parental attitudes, nor can they be explained solely by children's behavior. They are shaped through the interaction of parental characteristics, child-related factors, and the wider social and institutional environment in which family life unfolds. For this reason, this dissertation uses Belsky's (1984) socio-ecological process model of parenting as its main theoretical framework. In Belsky's model, parenting is influenced by three interrelated subsystems: the parent, the child, and contextual sources of stress and support surrounding the family. This perspective allows examination of digital parenting as a multidetermined process shaped simultaneously by individual resources,

relational dynamics, and structural conditions such as work arrangements, family organization, and institutional expectations. Although Belsky's framework has been used in research on parental mediation and ICT use (Dedkova & Smahel, 2020; Walker & Rudi, 2014), its explicit application to digital parenting in adolescence remains relatively rare, despite its clear relevance.

At the same time, the dissertation builds on a conceptual shift in recent literature from a narrower notion of parental mediation to a broader concept of digital parenting. Earlier research, rooted mainly in television studies, focused on identifying specific parental strategies such as restrictive rules, active discussion, or co-viewing. While these categories remain useful, they often treat media as an external object that parents regulate. In contemporary digital environments, however, technologies are deeply embedded in everyday family life and shape communication patterns, routines, authority relations, and expectations about responsible parenting. The concept of digital parenting, therefore, refers not only to regulation but also to the wider organizational, relational, and normative dimensions of parenting in digitally mediated societies (Livingstone & Blum-Ross, 2020; Mascheroni et al., 2018; Nichols & Selim, 2022). Adopting this broader perspective makes it possible to interpret parental monitoring, parent-child discussions, and shared technology use not as isolated strategies but as parts of a complex socio-ecological process.

The dissertation's empirical focus is on families with adolescent children. Adolescence is a particularly relevant life stage for studying digital parenting, as it is characterized by increasing autonomy, stronger peer relationships, and greater involvement in digital environments. During this period, parental authority is renegotiated, and conflicts related to privacy, independence, and responsibility become more frequent. Digital technologies often intensify these tensions, since adolescents' online activities may be less visible to parents while also becoming more socially significant (Erickson et al., 2016). Examining digital parenting in adolescence, therefore, offers insight into how families balance protection and autonomy amid rapid technological change.

Methodologically, the dissertation employs a mixed-methods research design that combines quantitative and qualitative approaches. Survey data from 2017 are used to test hypotheses about the association between parent-related, child-related, and contextual factors and three specific digital parenting practices: parental monitoring, parent-child digital co-use, and discussions about technology use. These practices were selected because they capture both

control-oriented and relational aspects of digital parenting while remaining analytically distinguishable. The quantitative analysis is complemented by semi-structured interviews (2019) and focus group discussions (2025–2026) with parents, which allow a more detailed exploration of how digital parenting is interpreted and negotiated in everyday family life. Because these data were produced at different points between 2017 and 2026, the study treats digital parenting not as a fixed state but as a phenomenon in transition, using the interval between data collections as a vantage point on how parental practices and the surrounding digital environment have changed. This combined approach makes it possible to examine digital parenting as an ongoing practice involving uncertainty, responsibility, and everyday decision-making, not just a set of measurable practices.

The main aim of the dissertation is to demonstrate that digital parenting in adolescence should be understood as a socio-ecological and socially embedded phenomenon rather than as a set of individual parental strategies. Using Belsky's (1984) model, it examines how parent-related, child-related, and contextual factors together shape everyday parenting practices around digital technology. The results show that digital parenting depends on parental characteristics such as age, education, and subjective parental quality, but equally on children's developmental stage, family structure, work–life conditions, institutional expectations, and wider social norms. The qualitative findings add that digital parenting often entails ongoing mental, emotional, and moral work, as parents manage uncertainty and weigh competing expectations about what responsible parenting means in the digital age. Beyond applying this framework, the dissertation makes two contributions: it identifies three cross-cutting tensions that organize digital parenting, and it reconceptualizes digital parenting as an ongoing, unequally shared form of invisible care work.

The dissertation is organized into eight chapters. Chapter 2 presents the theoretical framework, including the socio-ecological model of parenting, changing social expectations of parenting, and the concept of digital parenting. Chapter 3 reviews previous empirical research on adolescents' digital activities and digital parenting practices, with special attention to the Hungarian context. Chapter 4 formulates the research questions and hypotheses. Chapter 5 describes the data and methods, including the mixed-method design. Chapter 6 presents the empirical results. Chapter 7 discusses the findings in relation to the theoretical framework and previous literature. Finally, Chapter 8 summarizes the main conclusions, contributions, limitations, and implications for future research.

2. Theoretical framework

2.1. Parenting

2.1.1. The socio-ecological model of parenting

One of the most influential socio-ecological approaches to understanding parenting is Belsky's (1984) process model. In this framework, parenting is conceptualized as a multidetermined process shaped by the interaction of parental characteristics, child attributes, and the broader social context in which family life is embedded. Rather than viewing parenting behavior as the product of a single causal factor, Belsky's model emphasizes the interplay between these domains and highlights that effective parenting practices emerge from the dynamic interaction of personal, relational, and contextual influences (Figure 1).

1. Figure A process model of the determinants of parenting (Belsky, 1984)

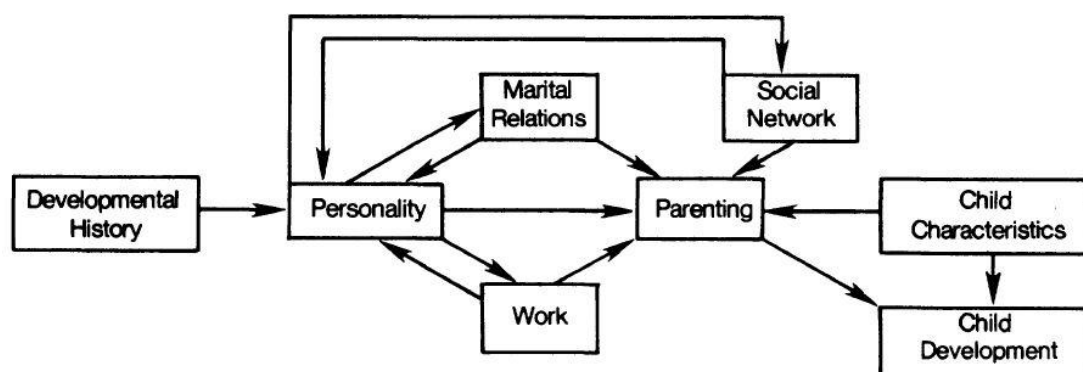


FIG. 1.—A process model of the determinants of parenting

In Belsky's model, parental behavior is shaped by three primary sources of influence: the parent's characteristics, the child's characteristics, and contextual sources of stress and support surrounding the family. Parental characteristics, including personality, psychological well-being, and developmental history, together influence parents' capacity to provide sensitive, developmentally supportive care. According to Belsky, parents are more likely to display competent parenting when their own developmental experiences have fostered emotional maturity and psychological stability (Belsky, 1984).

Child-related factors also play a crucial role in shaping parenting practices. The “goodness-of-fit” between parent and child influences the quality of parent–child interactions, meaning that

children's temperament, developmental needs, and behavioral characteristics may elicit different parental responses. Parenting outcomes, therefore, emerge from the interaction between parental dispositions and children's individual attributes rather than from parental characteristics alone (Belsky, 1984).

The third domain of influence in Belsky's model concerns contextual sources of stress and support. Social support networks, partner relationships, and working conditions all shape the environment in which parenting takes place. Belsky argues that social support may operate through multiple pathways, including emotional support, instrumental assistance, and the reinforcement of social expectations regarding parenting. The marital relationship represents the most immediate source of such support, followed by broader social networks and workplace environments. Employment conditions may influence parenting both directly – by shaping time availability and parental expectations – and indirectly through their impact on parents' psychological well-being (Belsky, 1984).

According to Belsky's framework, the likelihood of competent parental functioning is highest when the conditions within these subsystems are supportive and mutually reinforcing. Conversely, when parental characteristics, child attributes, and contextual conditions simultaneously generate stress, the probability of developmentally supportive parenting decreases (Belsky, 1984).

Belsky's model (1984) builds on the broader tradition of socio-ecological approaches to human development, most notably Bronfenbrenner's ecological systems theory. Bronfenbrenner (1994) conceptualizes human development as embedded in nested environmental systems that shape individual experiences and developmental outcomes. These include the microsystem, mesosystem, exosystem, macrosystem, and chronosystem, each representing different levels of environmental influence.

The microsystem refers to the immediate environments in which individuals participate directly, such as the family and school. The mesosystem captures the relationships and interactions between these settings, for example, the connections between family life and educational institutions. The exosystem includes external contexts that indirectly affect individuals, such as parents' workplaces, community networks, or neighborhood environments. At a broader level, the macrosystem refers to the cultural patterns, belief systems, institutional structures, and material resources that shape social life. Finally, the chronosystem introduces

the dimension of time, highlighting how developmental trajectories are influenced by life-course transitions and broader historical changes (Bronfenbrenner, 1986, 1994).

Within this ecological perspective, parenting can be understood as a process shaped simultaneously by several levels of influence. Belsky's model can therefore be interpreted as a more specific conceptualization of how the ecological environment identified by Bronfenbrenner translates into concrete parenting practices within the family context. By explicitly focusing on the interaction among parental characteristics, child attributes, and contextual conditions, Belsky's framework provides a particularly useful analytical tool for examining the determinants of parenting behavior.

2.1.2. Intensifying social expectations of parenting

2.1.2.1. Parenting as investment: cultivation, resources, and social stratification

The home is a primary context for children's growth and development. From a sociological perspective, Coleman (1988) distinguishes between financial, human, and social capital within the family. Financial capital refers to material resources, human capital to the educational resources parents can provide, and social capital to the relations between parents and children. Coleman's central point is that parental human capital does not automatically benefit children; it becomes educationally meaningful only when mediated by parental presence, attention, and strong intergenerational ties. Similarly, Lareau's (2002) concept of "concerted cultivation" shows how middle-class parents actively organize children's development through structured leisure activities, extensive reasoning, and confident engagement with institutions. This approach does not simply describe parental involvement, but highlights how everyday childrearing practices can produce cumulative advantages. Taken together, these perspectives frame parenting as an important mechanism through which children's developmental opportunities and social inequalities are shaped. In developmental psychology, a related emphasis appears in the concept of parental support, which refers to the affective and relational quality of parenting, including warmth, responsiveness, acceptance, emotional availability, and involvement. This dimension has repeatedly been linked to more favorable child outcomes (Kuppens & Ceulemans, 2019).

Underlying these perspectives is a logic of investment: parenting is increasingly understood as deliberately channeling time, money, and attention into children's development in anticipation of future returns. Economic accounts of the family make this logic explicit. Building on Becker's tradition, Doepke et al. (2019) argue that parenting styles are shaped by economic

incentives – where inequality is high, and the returns to education are large, parents tend to adopt more intensive, achievement-oriented approaches – so that rising educational and economic stakes contribute to the intensification of parenting. Lareau’s ethnographic work develops the sociological counterpart to this argument: middle-class and working-class families operate with different “logics of childrearing”, concerted cultivation versus the accomplishment of natural growth, which can generate unequal institutional advantages and contribute to social reproduction (Lareau, 2011). The same investment logic is visible in everyday practice: middle-class parents enroll children in “enrichment” activities as a strategy of class reproduction, driven by a marked sense of urgency, responsibility, and anxiety about the child’s future (Vincent & Ball, 2007). Such investments are not made in a vacuum but are shaped by parents’ perceptions of the wider economy: perceived income inequality and perceived job insecurity, for instance, are associated with different forms of parental school involvement (Van Petegem et al., 2025).

One of the most influential conceptualizations of contemporary transformations in child-rearing is Hays’s (1996) notion of intensive parenting. Hays describes a dominant parenting model that requires substantial investments of time, money, and emotional energy, particularly from mothers. Intensive parenting prescribes constant attentiveness to children’s developmental stages, active management of educational and extracurricular opportunities, and the consumption of goods and services deemed necessary for children’s well-being (Hays, 1996). This framework captures a broader normative shift in which parenting becomes more demanding, emotionally charged, and morally evaluated.

Empirical evidence supports this trend: Doepke et al. (2019), drawing on time-use data from multiple OECD countries, document a substantial increase in the time parents spend with their children over recent decades, particularly among highly educated families. Although intensive parenting is often associated with white, highly educated, female parenting (Yerkes et al., 2019), parents’ ability to conform to dominant ideals of “good parenting” is shaped by material resources, education, and time pressure. Parents in low-income households may lack the time and financial resources needed to meet intensive parenting expectations. Research also indicates that prevailing standards of appropriate parenting largely reflect middle-class norms, and that the most educationally advantaged segments of the middle class increasingly define what counts as “educationally appropriate” and “supportive” parenting (Dermott & Pomati, 2016). Consequently, rather than assuming that disadvantaged families parent differently, it may be more analytically productive to examine how privileged groups establish the benchmarks against which parenting is evaluated.

At the same time, recent research suggests that intensive parenting norms are widely shared across social classes. Ishizuka's (2018) nationally representative vignette survey experiment with more than 3,600 U.S. parents demonstrates an overwhelming preference for concerted cultivation over a less intensive "natural growth" approach across social class groups. Both college-educated and non-college-educated parents rated time-intensive, child-centered, and institutionally proactive parenting as superior, and respondents evaluated mothers and fathers according to similarly high standards. These findings indicate that the normative ideal of intensive, child-centered parenting is widely shared and applies broadly across class and gender, even though actual parenting practices and the capacity to enact these norms remain stratified. Thus, while structural inequalities shape parents' resources and lived experiences, the cultural expectation of "good parenting" operates as a broadly internalized and socially generalized standard.

2.1.2.2. Parenting culture: risk-consciousness, determinism, guilt, and expertise

Subsequent scholarship has extended and systematized this argument. Lee et al. (2023), building on Hays's concept of intensive motherhood and Furedi's critique of paranoid parenting, describe the consolidation of a broader "parenting culture" in contemporary Western societies. In this culture, parenting is framed as a specialized, expert-informed project, strongly shaped by scientific authority and risk discourse. Central to this development is the idea of parental determinism: the belief that children's long-term emotional, educational, and social outcomes are shaped to a significant degree by parental decisions and everyday practices. Policy interventions, expert advice, and public discourse converge to position parents as primarily responsible for preventing future social and individual problems. Children are constructed as vulnerable and "at risk", while parents are cast as managers of those risks. Within this framework, good parenting becomes associated with continuous self-monitoring, optimization, and proactive intervention, generating more demanding and often unrealistic social expectations. Parents are implicitly held accountable for their children's present well-being and their anticipated future success (Lee et al., 2023). In public discourse, the intensification of parenting is often captured through labels such as the "tiger mom" and the "helicopter parent". The figure of the "tiger mom" condenses ambivalent evaluations of intensive parenting: it can be criticized as excessive pressure, but also interpreted as an attempt to secure children's future opportunities (Dermott & Pomati, 2016). The "helicopter parent", in turn, points to forms of prolonged parental involvement that may continue into higher education and young adulthood, especially among more affluent families (Hamilton et al., 2018). These labels reflect the

moralization of parenting and the heightened scrutiny attached to parental involvement in contemporary societies.

This risk-oriented construction of parenting can be situated within the broader diagnosis of late modernity as a “risk society”, in which individualization shifts the management of socially produced, uncertain risks onto reflexive individuals (Beck, 1992). Applied to the family, this logic recasts parents as the everyday managers of their children’s exposure to risk, with the burden of anticipation falling on them personally. It also helps explain the growing centrality of expertise: in contemporary parenting culture, parenting is treated as a skill to be acquired through professional advice and training, so parents are expected to consult and defer to expert authority (Lee et al., 2023). Importantly, this dynamic positions parents as recipients of expertise while also encouraging them to become quasi-experts themselves – a dimension that resonates directly with the accounts analyzed later in this dissertation.

The affective underside of this culture is guilt. Because “good mothering” is defined in demanding and often unattainable terms, mothers are structurally exposed to guilt and shame, which are produced less by individual failings than by institutional and interactional dynamics (Sutherland, 2010). The pressure to be a “perfect” mother is associated with heightened stress and reduced parenting self-efficacy, while guilt about failing to meet parenting expectations is also linked to anxiety. Importantly, these effects extend even to mothers who do not personally endorse intensive-mothering ideals (Henderson et al., 2016). Comparative evidence further shows that such guilt is not a private psychological matter but is culturally and institutionally produced, varying with national policy arrangements and normative contexts (Collins, 2019). In this sense, guilt can be understood as the emotional counterpart of parental determinism. Where parents are held responsible for outcomes they cannot fully control, moral accountability is experienced as personal culpability.

2.1.2.3. The gendered division of intensive parenting

Although intensive parenting is often framed in gender-neutral language, its demands fall unequally on mothers, so that “intensive parenting” often operates in practice as intensive mothering. Wall’s (2013) analysis shows that cultural representations of children’s needs have become more expansive, and with them the responsibility ascribed to mothers for meeting those needs – even as maternal employment has become increasingly normalized. The significance of the maternal role, then, lies not simply in mothers’ greater physical presence, but in the cultural meaning attached to intensive mothering itself: mothers are positioned as primarily

accountable for the child's everyday development and prospects.

A central arena of this responsibility is the child's schooling and, through it, the reproduction of social status. Mothers' involvement in children's education is shaped by considerable emotional engagement – including guilt, anxiety, frustration, empathy, and encouragement – which Reay (2000) theorizes in relation to a gendered and classed form of “emotional capital”. This maternal labor extends to shaping the child's broader trajectory through enrichment activities and institutional engagement, understood as strategies of class reproduction (Vincent & Ball, 2007; Lareau, 2011). This perspective is important for digital parenting research because it situates parental concerns about screen use within broader anxieties about children's development, schooling, and future opportunities.

This gendered distribution is reinforced by the uneven allocation of the cognitive work of parenting. Beyond physical tasks, managing family life entails a distinct dimension of labor: anticipating needs, identifying options, making decisions, and monitoring outcomes. This work is demanding yet often difficult to see, and women perform it disproportionately, especially its anticipatory and monitoring components (Daminger, 2019). Mothers frequently act as the “captains” of the household, taking primary responsibility for organizing routines and remaining attentive to children's emotional lives, with implications for their own well-being and sense of overload (Ciciolla & Luthar, 2019). Dean et al. (2022) conceptualize this “mental load” as a combination of cognitive and emotional labor: work that is hard to delimit because it moves across home, work, leisure, and sleep, and because caring responsibilities continually generate new tasks. This literature matters for digital parenting because technology management also involves ongoing anticipation, coordination, monitoring, and emotional responsibility, not just visible rule-setting or direct supervision.

Fathers, by contrast, are positioned differently within this configuration. Contemporary ideals of “involved” fatherhood emphasize emotional closeness and the quality of the father–child relationship rather than breadwinning alone, an orientation Dermott (2003) terms “intimate fathering” – yet this intimacy does not necessarily translate into the continuous coordination of everyday care. Longitudinal evidence shows that men often imagine disrupting gendered divisions of labor upon becoming fathers, only to “fall back into gender” as the demands of parenting accumulate (Miller, 2011). At the same time, Dermott and Miller (2015) suggest that contemporary fatherhood is changing across policy, discourse and everyday practice, even if these changes do not amount to a complete undoing of gendered parenting responsibilities.

Taken together, this literature helps explain why fatherhood may become more emotionally involved without necessarily redistributing the continuous interpretive, emotional and organizational work of parenting.

Although the analytical backbone of this dissertation is Belsky's socio-ecological model (1984), these debates on contemporary parenting are essential for interpreting the empirical findings. Belsky's model helps identify the parent-related, child-related, and contextual conditions that shape digital parenting; the literature on intensive parenting, parenting culture, and gendered responsibility helps explain why parents experience and narrate these conditions as matters of investment, risk, guilt, expertise, and moral accountability. This perspective allows the dissertation to analyze digital parenting as a socially situated form of contemporary parenting work.

2.2. Technology

2.2.1. General approaches and attitudes toward technology

Debates about technology are not merely empirical disagreements about effects; they are structured by broader theoretical frameworks and normative orientations that shape how technological change is interpreted in the first place. These interpretive paradigms can influence public discourse, policy responses, and everyday practices – including how parents approach digital technologies. Within science and technology studies, technological determinism is one of the most influential and contested frameworks for understanding technological change. Two core versions are typically distinguished: first, the claim that technology develops according to its own internal logic, largely independent of social, economic, and political forces; and second, the argument that technological change itself drives social transformation (MacKenzie & Wajcman, 2001). While stronger forms portray technological development as an almost autonomous and inevitable process, more moderate interpretations acknowledge social shaping and embedded power relations. Evolutionary accounts likewise attribute a decisive structuring role to technological innovation. Despite their differences, these approaches share the assumption that technology plays a central role in organizing modern social life.

Beyond theoretical determinism, broader attitudinal positions toward digital technology can be identified. On one end of the spectrum, techno-optimism – particularly prominent from the 1970s onward – frames technological innovation as a source of empowerment, creativity, communication, and human progress (Kerschner & Ehlers, 2016). In this discourse, digital

technologies expand autonomy, strengthen social ties, and enhance cognitive capacities (e.g., Shirky, 2010). Related positions include technophilia, marked by fascination with high technology, and technocracy, which promotes governance by technical experts (Kerschner & Ehlers, 2016). At a macro level, entropy optimism or cornucopianism extends this confidence to economic development, arguing that technological innovation can overcome resource limits and generate sustained growth (Barnett & Morse, 2013). At the other end of the spectrum, more critical and ambivalent perspectives emphasize uncertainty, unintended consequences, and potential harm. Mitcham (1994, as cited in Kerschner & Ehlers, 2016) describes a “romantic uneasiness” associated with the accelerating pace of technological change. Funtowicz and Ravetz (2008, as cited in Kerschner & Ehlers, 2016) distinguish between “ambiguous aversion,” which highlights governance challenges and epistemic uncertainty, and “ambiguous appropriation,” which cautiously acknowledges both risks and benefits. Techno-pessimistic narratives, by contrast, frame digital technologies as distracting, corrosive to critical thinking, and potentially threatening to social cohesion (e.g., Morozov, 2011). More radical forms include technophobia, which regards technology as inherently harmful, and entropy pessimism, which questions innovation's capacity to overcome ecological limits.

These competing orientations show that people never encounter technology as a neutral instrument. Rather, people interpret it through culturally available frames that oscillate between promise and peril. Such interpretive frameworks shape expert debates as well as broader societal “moods” regarding technological development. Recent empirical research demonstrates how these broader cultural frames can crystallize into heightened public concern. Redman (2021), for example, argues that between approximately 2017 and 2019, public discourse in the UK displayed many characteristics of a moral panic regarding young people’s social media and screen use. Although key actors – including academics, public health experts, advocacy groups, media outlets, and government representatives – did not succeed in establishing a sustained public consensus or in implementing preferred regulatory measures, the episode nonetheless met several criteria for a moral panic. Most notably, the perceived risks were amplified beyond what available empirical evidence could substantiate.

Beyond the concept of moral panic, the notion of risk society offers an additional lens for interpreting such discourses. In Ulrich Beck’s (1992) terminology, the present-day configuration of both actual and perceived dangers takes shape as a “risk society,” where—unlike in the case of natural hazards—risk refers to the organized and systematic management of threats and uncertainties produced by processes of modernization. Drawing on reflexive

modernity, Ferguson (1997) argues that contemporary societies are characterized by heightened risk awareness, professionalized risk management, and reflexive engagement with uncertain futures. Risks become objects of anticipation, calculation, and governance, rather than merely sources of fear. In this context, technological development becomes embedded in broader existential concerns about safety, responsibility, and managing uncertainty. The theoretical approaches mentioned above suggest that pre-existing cultural narratives about progress, danger, responsibility, and the future shape responses to digital technologies. These narratives can also shape parents' interpretations of digital media, since parents encounter them both as caregivers and as members of a late-modern society characterized by intensified reflexivity and heightened sensitivity to risk.

2.2.2. Digital parenting

The contemporary period is marked by an unprecedented acceleration of technological change, whose consequences extend from public institutions into the most intimate domains of family life. Digital technologies provide parents with practical advantages, such as occupying children during leisure time, facilitating communication, supporting homework, and serving as tools for reward or control (Bergert et al., 2020). At the same time, children's screen use becomes a visible site of moral judgment, as parents evaluate both their own and others' practices, framing some as overly permissive and others as excessively restrictive (Livingstone & Blum-Ross, 2020). Parents need guidelines on how to help their children use digital devices to reap their benefits (Nomaguchi & Milkie, 2020). Early research into children's media use approached parental involvement primarily through the framework of parental mediation. According to the literature and conceptual framework of parental mediation, parents employ various mediation strategies in order to protect their children from risks, support their growing autonomy, and foster the development of their digital competencies (Haddon, 2015; Hiniker et al., 2016; Kim & Davis, 2017). This perspective conceptualized parents as agents who seek to mitigate potential negative media effects through identifiable strategies, assuming that parent-child interactions about media content influence children's socialization (Clark, 2011). Classical typologies distinguish active mediation (discussing content), restrictive mediation (setting rules regarding time or content), and co-viewing (consuming media together) (Nathanson, 1999; Valkenburg et al., 1999). In the context of internet and mobile media use, concerns that children cannot independently regulate their online behavior have reinforced parental desires for supervision and control (Livingstone et al., 2014). However, while mediation frameworks offer valuable analytical tools, they tend to focus more on discrete regulatory strategies and often

conceptualize digital media as external objects to be managed.

Although research on parental mediation has a longer tradition rooted in television studies, a gradual conceptual shift has become visible since the mid-2010s toward the broader framework of digital parenting. While earlier scholarship primarily focused on identifying and categorizing parental strategies – such as restrictive, active, or co-use mediation – more recent work has questioned whether strategy-based typologies sufficiently capture the complexity of digitally mediated family life. Scholars argue that contemporary digital environments, characterized by portability, personalization, platformization, and datafication, challenge the applicability of models developed in the era of shared, stationary media (Mascheroni et al., 2018; Modecki et al., 2022). Nichols and Selim (2022) identify a clear shift in the literature on parenting in digital contexts, noting a significant upsurge in publications from 2016 onwards, which signals the consolidation of digital parenting as an emergent and dynamic research field. At the same time, while much of the earlier work builds on parental mediation theory and focuses on categorizing strategies such as restrictive or active mediation, the authors argue that models concentrating solely on parental mediation of children's online activities are too limiting. Instead, they emphasize the multi-dimensional character of digitally mediated parenting and call for integrative approaches that move beyond discrete strategy typologies toward a broader, relational understanding of parenting in digitally networked environments. This conceptual broadening does not replace parental mediation research but situates it within a more comprehensive analytical framework.

Digital parenting is more than a set of mediation strategies; the concept responds to bigger changes in how parenting is practiced and understood. In the twenty-first century, parenting is no longer only a private social role, but a socially mediated practice organized through digital devices, platforms, and communication networks. It takes many forms, from child-centered YouTube channels and educational apps that unsettle established pedagogical hierarchies to the blogs, forums, and chat groups in which parents work out norms, anxieties, and expectations together. Because parenting is now so closely bound up with digital media, understanding it has become central to understanding wider changes in family life (Lendvai & Koltay, 2025). Mascheroni et al. (2018) define digital parenting as a multidimensional and evolving set of practices through which parents both regulate their children's engagement with digital media and weave digital technologies into everyday family life. Parental mediation is one part of this, but digital parenting also involves a wider reorganization of parenting under digital conditions. Digital media are not simply content to be filtered or discussed; they alter how families

communicate, how authority is exercised, how daily routines are timed, and what parents are expected to do.

Within this broader framework, digital parenting includes both restrictive and enabling practices. Restrictive mediation involves rules, monitoring, bans, and technical controls, while enabling mediation encompasses discussion, guidance, co-use, and support for safe participation. Research has moved beyond television-based models to acknowledge the specific affordances of digital media – such as portability, personalization, persistence, and visibility – which complicate simple supervision and require dialogical, competence-building approaches (Mascheroni et al., 2018). Empirical synthesis supports this differentiated understanding. Tan et al.'s (2025) meta-analysis of 88 studies shows that co-use demonstrates the strongest protective association (reducing negative digital well-being), followed by positive mediation (discussion, encouragement) and negative mediation (rules, restrictions). Hernandez et al. (2024) found that restrictive monitoring is significantly positively associated with adolescents' problematic internet use. These findings challenge one-dimensional, restriction-focused approaches and indicate that no universal digital parenting strategy optimizes all aspects of digital well-being. At the same time, Vaala and Bleakley's (2015) regression analyses suggest a more differentiated pattern: in US families, restrictive mediation was negatively associated with younger teens' social networking, while general parental monitoring was positively associated with older adolescents' school-related internet use.

Digital parenting also encompasses parents' own use of digital technologies in child-rearing. These include sharenting, participation in online parenting communities, reliance on apps for educational coordination, wearable devices and data tracking, and digitally mediated organization of everyday routines. Such practices contribute to the datafication of childhood and reshape norms of privacy, responsibility, and authority within families. Parenting itself becomes more visible, networked, and subject to public scrutiny (Mascheroni et al., 2018; Livingstone & Blum-Ross, 2020).

Livingstone and Blum-Ross (2020) offer a particularly influential conceptualization of digital parenting, framing it not as a narrow set of technical control practices but as a culturally embedded, future-oriented project. Drawing on qualitative research with socioeconomically diverse London families, they argue that digital dilemmas serve as “lightning rods” for broader anxieties characteristic of late-modern, risk-oriented societies. Parents' concerns about screen time, online risks, and digital skills are inseparable from hopes and fears regarding educational

success, employability, and social mobility. They identify three recurring “genres” of digital parenting – embrace, balance, and resist – understood as patterned constellations of values and practices. Parents who embrace digital technologies emphasize opportunity and creativity; those who seek balance attempt to reconcile benefits with risk management; and those who resist foreground protection and the preservation of valued forms of childhood. These orientations are dynamic and socially situated, shaped by public discourse, classed expectations, and mutual parental judgment. Digital parenting thus works as a morally charged arena in which broader narratives of responsibility and the future are negotiated.

Beyond risk management and skill acquisition, digital parenting also intersects with questions of rights, agency, and citizenship. Clark and Brites (2018) show that in many families parental discussions about digital media focus primarily on safety and supervision, framing adolescents as not yet ready for full autonomy. In such contexts, young people may comply with restrictions or circumvent them, but rarely develop a strong sense of themselves as rights-bearing civic actors. By contrast, families that encourage open discussion about current events, ethical dilemmas, and social justice issues create what the authors term “agentive environments.” In these households, digital media are seen as risky, but also as enabling expression, participation, and collective engagement. Such practices link everyday digital decision-making to broader civic responsibilities, demonstrating that digital parenting can foster – or constrain – young people’s development as active citizens.

As discussed in the previous section on changing social expectations around contemporary parenting, parents today operate in a normative environment marked by heightened responsibility and intensified public scrutiny. Livingstone and Blum-Ross (2020) argue that contemporary parenting in Western societies is shaped by a broader social transformation in which responsibility for children’s upbringing is increasingly devolved onto parents. As they note, the rolling back of the welfare state and the rise of market-led policies and neoliberal discourses of individual “empowerment” and “choice” have altered the family’s external ecology, placing greater expectations on parents. At the same time, the family’s internal organization has become more “democratic,” requiring parents to negotiate decisions about lifestyle, education, and values with their children rather than relying solely on hierarchical authority. In this context, parents experience what the authors describe as a “burden of choices,” even though their actual resources and degrees of freedom may be limited (Livingstone & Blum-Ross, 2020, pp. 57-58). In the digital age, these dynamics intensify further. Parents’ hopes and fears about technology become central to what the authors call the “project of the

family.” At the same time, society often shifts responsibility for managing digital risks onto parents and subsequently judges them for perceived failures. Parents are thus portrayed as caught between competing demands: balancing protection against autonomy, negotiating authority within the more democratic family, and answering to societal expectations about children's digital lives (Livingstone & Blum-Ross, 2020, pp. 195–196). This normative pressure is further reinforced by media discourses surrounding children’s digital environments. Willett’s (2015) discourse analysis of newspaper coverage and virtual world gaming websites demonstrates how the figure of the “good parent” is constructed as an informed evaluator, selector, monitor, and mediator of children’s online activities. In these representations, parents are positioned as responsible for assessing risks, managing exposure, and ensuring that digital engagement is safe, educational, and developmentally appropriate. Such discourses individualize responsibility for digital risk management while reproducing cultural hierarchies between “good” and “bad” forms of digital participation, thereby intensifying the moral expectations placed upon parents in the digital age.

Recent research calls for a broader change in how we understand adolescents’ technology use and parental mediation. Instead of framing digital media mainly through risk and restriction, scholars now stress the value of helping adolescents build resilience, self-regulation, and deliberate technology use. On this view, parents are asked to do more than limit exposure to harm; they are also expected to help young people develop the skills to use digital media independently and responsibly (Wisniewski et al., 2024).

Finally, digital parenting is tied to wider structural inequalities and generational narratives that shape how families interpret technology. Parents often voice concerns about online risks and contact with strangers, while adolescents stress autonomy and freedom online (Clark, 2011). The popular idea of “digital natives” (Prensky, 2009) reinforces this generational framing by casting young people as naturally competent users – accustomed, on this account, to receiving information quickly, processing in parallel, and multitasking, preferring graphics to text and working best when networked (Chairiyani & Winiharti, 2019). Empirical research challenges the assumption: digital literacy does not develop automatically through exposure, and substantial inequalities in digital skills persist (Helsper & Eynon, 2010). Generational differences are only part of the picture, since digital parenting is also shaped by unequal resources, competence, and opportunity. A family’s socioeconomic background is associated with distinct approaches to media use (Clark, 2011), and digital inequality reaches beyond access to devices to differences in effective ICT use and literacy (Rojas et al., 2003; Tondeur

et al., 2010). Positive engagement with technology may support social mobility (Hollingworth et al., 2011), but parents' attitudes, capacities, and strategies are themselves conditioned by their class positions. Digital parenting cannot, then, be reduced to individual-level practice: it is a relational and structurally conditioned phenomenon that runs through family norms, technological affordances, generational dynamics, moral expectations, and social inequality.

In this light, digital parenting is best understood not as a discrete “screen problem” but as one contemporary arena of intensive, risk-conscious parenting. Livingstone and Blum-Ross (2020) show that parents' engagement with their children's technology use is shaped by hopes and fears about the future in an individualized, competitive society, drawing together the threads outlined above – intensive parenting, risk, and the reflexive management of children's prospects. They identify three “genres” of digital parenting – embrace, balance, and resist – as clusters of practices organized around distinct values and imaginaries of the digital future. They emphasize that the reflexive resources parents can bring to bear are themselves stratified by social class. Managing adolescents' technology use thus becomes one of the everyday domains in which parents enact, and are judged against, prevailing ideals of “good parenting”.

This responsibility, however, should not be understood as purely individual. Complementing this culturally embedded reading, recent legal scholarship conceptualizes parental responsibility in the digital age as multi-layered: simultaneously a legal obligation, an educational practice, and a social expectation, yet also relational and socially embedded. From this perspective, effective digital parenting depends not only on parental choices but also on institutional guidance, educational resources, and broader societal support. Responsibility for children's digital well-being is therefore shared across families, schools, platforms, and the state (Lendvai & Koltay, 2025). The empirical chapters that follow examine in detail the specific factors shaping digital parenting practices.

3. Previous empirical results

3.1. Digital activities of adolescents

Adolescents' everyday lives are deeply interwoven with digital media, yet not defined solely by them. Livingstone and Sefton-Green (2016) show that digital technologies gain meaning through the specific contexts in which young people use them: at home, at school, with peers, and in the spaces between these domains. After school, digital media accompany face-to-face socializing, homework, gaming, and family time, serving alternately as tools for connection, distraction, self-expression, and autonomy. Rather than being constantly immersed online, teenagers use digital devices to move between different social worlds, maintain peer relationships, and negotiate visibility, privacy, and independence. At the same time, schools and parents seek to manage these connections, often by regulating the boundaries between home, school, and peer life. This highlights a continuous negotiation over control, agency, and connection in the digital age (Livingstone & Sefton-Green, 2016).

Over the period covered by this dissertation's data collection, scholarship has increasingly moved from alarmist "screen-time" narratives toward a more nuanced understanding of young people's digital engagement. Global evidence frames children's online lives as a linked field of opportunities and risks. Because children are often among the early adopters of new digital technologies, expanded access can increase exposure to both beneficial opportunities and potential harms (Livingstone & Stoilova, 2019). Methodologically careful studies challenge simple causal claims about screen time. Orben and Przybylski's (2019) analysis of three nationally representative time-use-diary datasets found little evidence for substantial negative associations between digital-screen engagement and adolescent well-being, while Downey and Gibbs (2020) found no evidence that more recent cohorts of American children had poorer face-to-face social skills, even after accounting for screen exposure. Kostyrka-Allchorne et al. (2025) similarly show that screen time alone is a weak predictor compared with the specific type of digital activity and the psychological reactions it evokes: social comparison, risky content, and negative self-reactions are more informative for mental health than time online. At the same time, cohort evidence from Ireland suggests that high daily screen exposure – three or more hours – is associated with more serious socioemotional problems among 9-year-old children, with stronger or more pervasive associations in the younger cohort, while gender and socioeconomic status did not substantially moderate these effects (Bohnert & Gracia, 2020). Taken together, these findings challenge moral-panic narratives and support a shift from screen

time alone toward the quality, context, and subjective experience of digital engagement. Against this backdrop, the following two sub-sections trace how adolescents' technology use has changed over this period – first in quantity, and then in the devices used and the content consumed. This section aims to identify the broad technological and social shifts to which parents have had to respond. These shifts matter because they shape what parents do and how they imagine risk, responsibility, autonomy, and the future of childhood in the digital age.

3.1.1. Changes in the quantity of adolescents' technology use

Over the span covered by this dissertation's data collection, one of the clearest trends is the intensification and normalization of adolescents' digital device use: access has moved from widespread to near-universal, children encounter digital media at younger ages, and the smartphone has become the dominant mode of everyday internet access. Whereas in the early 2010s children's internet access was still less mobile and more strongly tied to the household, connectivity has since become near-ubiquitous. Across the OECD, the proportion of households with an internet connection rose from about one half in 2005 to 92% in 2023; by 2022, 97% of 15-year-old students lived in households with an internet connection, and 98% had access to a smartphone with an internet connection (OECD, 2025). Smartphone ownership now begins early: on average, around 70% of 10-year-olds already own a smartphone (OECD, 2025). European evidence follows the same trajectory. Comparing the EU Kids Online surveys of 2010 and 2017–2019, Smahel et al. (2020) report a substantial increase in both the proportion of children using smartphones and the amount of time spent online. In several countries, children's average daily time online almost doubled; in Spain, for instance, it rose from about one to three hours per day, while in Norway it increased from about two to three and a half hours. The smartphone has become the preferred way for most children across Europe to go online, making connectivity more mobile and continuous, and less tied to any fixed location (Smahel et al., 2020).

The COVID-19 pandemic further accelerated this early entry into everyday device use. Drouin et al. (2020) found that at the onset of pandemic-related social distancing in the United States, parents reported that both they and, especially, their teenage children (aged 13–18) had markedly increased their technology and social-media use, with the large majority of children using digital tools more than before – above all to stay connected. In this way, the pandemic drew digital devices more deeply and earlier into daily family routines, including in households that might otherwise have delayed or limited such use.

This growth is strongly age-graded and historically cohort-shaped. Participation in many online activities rises with age, as children move along a “ladder of opportunities” from basic uses toward more communicative, creative, and participatory uses of the internet (Livingstone et al., 2014). Average screen time also increases across developmental stages: Sanders et al. (2016) found that daily screen time rose from young childhood to middle childhood and adolescence, with adolescents spending the most time on computers and smartphone use increasing sharply from adolescence onward.

This expansion has also partially displaced older media. Earlier qualitative evidence suggested that teenagers increasingly described digital media as replacing time previously spent with television, radio, and print (Hundley & Shyles, 2010). Cohort evidence from Ireland points in the same direction: among nine-year-olds, television viewing declined between the 1998 and 2008 birth cohorts, while digital screen time and media activities such as YouTube, music streaming, and online video increased substantially (Bohnert & Gracia, 2020).

Crucially, this expansion is socially stratified. Although more than 5 billion people globally had mobile devices by 2018, with smartphones accounting for over half of these connections, access remains unequal across and within countries: younger, more educated, and higher-income people are more likely to be digitally connected (Taylor & Silver, 2019). Socioeconomic background also shapes young people's digital competencies. The broader literature on cultural capital and classed childrearing shows how family resources, cultural practices, and institutional know-how contribute to unequal educational advantages (Lamont & Lareau, 1988; Lareau, 2002; Lareau & Weininger, 2003). This logic extends to the digital domain. Vekiri's (2010) study of fifth- and sixth-grade students in Greece shows that although students from all socioeconomic backgrounds tended to value ICTs positively, students from low-SES families reported lower confidence in their ICT skills and had fewer opportunities to develop digital competencies outside school.

3.1.2. Changes in the quality of adolescents' technology use

Alongside the growth in quantity, what adolescents do online has shifted markedly toward video, social media, and communication, and this repertoire has continued to change as the available platforms have changed. Adolescence is a stage of identity formation, and peer relationships intensify and extend more into online spaces (Lee, 2012); internet use now takes place mainly on personal smartphones, often in the privacy of the bedroom (Livingstone et al., 2014). As platforms such as YouTube and social networking sites gained ground, adolescents'

online repertoires moved toward watching videos, listening to music, communicating with friends and family, using social networking sites, and playing online games (Smahel et al., 2020). More recently, the mix has tilted further toward short-form video and social platforms, and it remains gendered: boys are more likely to game online, while girls more often listen to music, watch videos, use chat applications, share content, and use the internet for school-related and audiovisual purposes (Livingstone et al., 2014). This shift is visible in recent trend data on adolescents' platform use. TikTok rose rapidly to become one of the most widely used platforms among teenagers – by 2022 around two-thirds (67%) of U.S. teens reported using it, and 16% used it almost constantly – even as the share using Facebook, dominant a decade earlier, fell sharply from 71% in 2014–15 to 32% (Vogels et al., 2022). By 2023, YouTube (93%), TikTok (63%), Snapchat (60%), and Instagram (59%) had become the platforms teenagers used most (Anderson et al., 2023). The ascent of TikTok also signaled a structural change in how young people engage online: its defining feature is a continuous feed of short videos curated by a recommendation algorithm rather than organized primarily around one's own social network (Montag et al., 2021).

The content repertoire has broadened in kind and volume. Digital environments now serve as spaces for entertainment, communication, information-seeking, and informal learning, and different platforms lend themselves to different uses: short, trend-driven clips on TikTok, longer explanatory videos on YouTube, and visual or social formats on Instagram can all support self-directed learning beyond the classroom (Szabó, 2025). Most recently, generative AI has entered adolescents' media practices as a new form of content and interaction. Piombo et al. (2025) found that 13–17-year-olds used AI systems more often than their parents, particularly for school- or work-related support, and trusted AI more regarding data security and the quality of behavioral advice. Population-level evidence shows how fast this has spread: by 2024, 70% of U.S. teenagers reported using at least one generative AI tool, most often to help with homework – frequently without their parents' or teachers' knowledge (Madden et al., 2024). The changing content mix is not only an opportunity, however. Recent OECD evidence shows that cyberbullying victimization has risen in nearly all OECD countries, a reminder that what adolescents do online, and not only how long they spend there, has changed (OECD, 2025). These shifts help explain why digital parenting has become such a demanding and uncertain task: parents are responding not to “more screen time” as such, but to earlier access, more private and mobile connectivity, fast-changing platforms, algorithmic content, new AI-based practices, and emerging risks.

3.2. Digital parenting

Digital parenting refers to a broad set of everyday practices through which parents try to manage the presence of digital technologies in family life. These practices range from setting rules and monitoring use to discussing online experiences, using devices together, or integrating digital tools into daily routines. Rather than a single strategy, digital parenting involves a combination of regulatory, relational, and organizational activities that develop in response to the changing role of digital media in the family (Mascheroni et al., 2018). It also involves parents' own digitally mediated child-rearing activities, such as sharenting, participation in online parenting communities, reliance on educational and coordination apps, data tracking, and the digital organization of daily routines, all of which contribute to the visibility and datafication of family life (Mascheroni et al., 2018; Livingstone & Blum-Ross, 2020). Moreover, digital parenting reflects culturally embedded orientations toward technology – such as embrace, balance, or resistance – through which parents negotiate risks, opportunities, and future aspirations (Livingstone & Blum-Ross, 2020). In this context, recent scholarship increasingly argues that the debate on adolescents' technology use should move beyond the binary question of whether digital technologies are beneficial or harmful. Instead, attention is shifting toward identifying the conditions under which digital environments can support adolescents' well-being, learning, and resilience, and how parental practices can facilitate these outcomes (Wisniewski et al., 2024). Although this broad constellation of activities collectively constitutes digital parenting, the present dissertation focuses specifically on three clearly delineable practices – monitoring, parent–child discussions about technology use, and parent–child co-use – because these dimensions are analytically distinguishable yet capture both parental control and parental involvement/connection.

3.2.1. Parental monitoring of adolescents' technology use

Parental monitoring is a central yet conceptually layered dimension of digital parenting. Online safety discourse frames the “good” parent as someone who actively supervises and guides their child's media use to protect them from potential harms (Jeffery, 2024). Using data from more than 10,000 U.S. early adolescents, Nagata et al. (2025) found that parental monitoring and screen-time limits were associated with lower adolescent screen use and problematic media behaviors. Although monitoring is widely understood as a protective strategy to safeguard adolescents from online risks, the literature shows it is neither uniform nor unproblematic, and its outcomes depend strongly on relational and contextual factors. As Modecki et al. (2022) argue in their systematic review of quantitative research, monitoring practices are conceptually

diverse and inconsistently operationalized, which complicates clear conclusions about their effectiveness. Moreover, monitoring must be understood within broader frameworks of digital parenting orientations (Livingstone & Blum-Ross, 2020) and socio-ecological influences on parenting behavior (Dedkova & Smahel, 2020).

The concept of monitoring is closely linked to the theory of parental mediation, which emerged from early television research and was later extended to digital environments. Valkenburg et al. (1999) and Nathanson (2001) distinguished three core mediation strategies: active mediation (discussing content with children), restrictive mediation (setting rules and limits), and co-use or co-viewing (engaging in media use together). Monitoring overlaps most directly with restrictive mediation, yet it also intersects with active strategies when parents learn about adolescents' online activities through conversation. Underlying many monitoring practices is the assumption – reinforced by media panics around the internet and smartphones – that children lack sufficient self-regulatory capacities and therefore require parental oversight (Livingstone et al., 2014). At the same time, literature reflects conflicting normative orientations toward children's digital lives. As mentioned in the theoretical background, public and academic discourse still often frames technological change deterministically, treating technology as an autonomous force that drives social transformation. Within this broadly deterministic outlook, two contrasting orientations tend to emerge: a techno-optimistic perspective that emphasizes innovation, empowerment, and progress, and a techno-pessimistic perspective that highlights risks, dependence, and social or moral decline (Kerschner & Ehlers, 2016; Plowman & McPake, 2013, as cited in Danby et al., 2018). Monitoring practices often reflect how parents navigate these competing imaginaries. Moreover, parental regulation is complicated because parents themselves frequently use their phones at home, which can create a sense of unfairness among teenagers. While both parents and adolescents justify their own phone use as a way to relax, teens in particular tend to internalize parental criticism, experiencing guilt shaped by repeated messages that prioritize “real” family interaction over screen time (Davis et al., 2019).

Livingstone and Blum-Ross (2020) further contextualize monitoring within broader “genres” of digital parenting. Parents who “embrace” digital technologies may monitor in order to scaffold digital skills and prepare children for a technologically saturated future. Those who seek “balance” combine oversight with opportunity, weighing risks against benefits. Parents who “resist” digital technologies are more likely to frame monitoring as a defensive strategy to limit what they perceive as excessive technological intrusion into family life. Thus, monitoring

is not merely a technical practice but an expression of parents' general attitudes toward technology, authority, and the future. Modecki et al. (2022) provide a more precise conceptual differentiation, distinguishing between filtering, hovering, and monitoring in the narrow sense in their systematic review of 145 quantitative survey studies. Filtering refers to technologically mediated control strategies, such as parental control software, content blocking, or screen-time limits that restrict access to specific platforms or regulate use duration. Hovering describes a form of supervision in which parents remain physically present – often in the same room – without directly engaging with the adolescent's activity, yet keeping an eye on it. Monitoring in the strict sense involves actively seeking information about adolescents' online behavior, either through technological means, such as checking browsing histories or using monitoring applications, or through non-technological strategies, such as glancing at the screen over the adolescent's shoulder. These distinctions matter because not all forms of oversight operate the same way. For instance, hovering is less effective on mobile devices with small screens and highly individualized usage patterns, which allow adolescents to conceal activities more easily.

Qualitative studies reviewed by Modecki et al. (2022) demonstrate that monitoring often extends beyond technical supervision into adolescents' broader social worlds. Parents may check teenagers' social media contacts, become "friends" with them online, search their names on platforms, or indirectly influence their peer networks. This expanded "umbrella concept of monitoring," sometimes described by adolescents as parental "stalking," illustrates how digital oversight can blur the boundaries between supervision and intrusion. Regulating the time and location of device use also functions as a resource through which parents assert authority, and access to digital devices is occasionally used as a system of rewards and punishments. Such practices reveal the power-laden dimension of monitoring and its embeddedness in broader struggles over autonomy and control.

Despite its contested nature, monitoring is frequently justified in the literature as a protective practice. Based on a survey sample of more than 4,000 adolescents in Italy, Baldry et al. (2019) emphasize that the effectiveness of monitoring depends less on the technique itself than on adolescents' perceptions of it. When parents are experienced as competent, fair, and supportive rather than intrusive and controlling, monitoring is more likely to reduce exposure to online risks. This finding aligns with research on authoritative parenting styles, which combine warmth with structure and tend to foster greater acceptance of parental authority. In this sense, monitoring appears most effective when embedded in a relational climate characterized by trust and mutual respect rather than unilateral surveillance. Policy-oriented documents adopt a

similar relational framing. The Council of Europe's (2020) guide "Parenting in the Digital Age" conceptualizes monitoring as part of parents' responsibility to act as "digital guardians." Parents are encouraged to understand privacy settings, be aware of their child's digital footprint, and monitor their child's online activities, particularly during pre-adolescence. However, monitoring is explicitly framed as transparent, age-appropriate, and proportionate rather than covert or punitive. The guide warns that overly harsh or purely restrictive approaches – such as blanket bans – may be counterproductive and push children toward secrecy. Monitoring is therefore presented not as a standalone strategy but as one component of a broader model of positive digital parenting that integrates structure, care, communication, and recognition of children's evolving capacities.

At the same time, empirical evidence indicates that monitoring practices are often more control-oriented in everyday family life than normative frameworks suggest and can lead to parent–child conflicts. Modecki et al. (2022) conclude that most survey measures conceptualize monitoring as one-sided information-seeking embedded in hierarchical power relations. Jeffery (2024) draws on a participatory action research project involving family workshops to discuss and reduce digital conflict within families, through which the authors examined the main sources of digital conflict among Australian families. The authors' results similarly demonstrate that monitoring frequently becomes a source of family conflict. Parents attempted to regulate screen time, oversee content, and prevent late-night use in order to ensure safety and well-being. However, adolescents often interpreted these efforts as threats to autonomy and privacy. In such cases, monitoring triggered psychological reactance, resistance, and conflict rather than compliance. These findings resonate with earlier research showing that restrictive parental strategies can undermine trust and increase intergenerational tension, and that they are harder to implement if not presented in a supportive way (Rodideau, 2020). Parent–child conflicts arising from monitoring may also stem from parents' uncertainty about what is harmful and where the appropriate boundaries lie. Parents frequently report feeling unsure about whether technology use is harmful or beneficial and express difficulty in setting appropriate boundaries (Radesky et al., 2016). Limited familiarity with platforms, games, and social media practices can lead to stricter control as a compensatory strategy. However, studies indicate that conflict tends to decrease when parents gain direct experience with or a better understanding of their children's digital activities (Kim & Davis, 2017). Encouraging adolescents' voluntary self-disclosure works as a particularly effective strategy (Toh et al., 2019), suggesting that relational trust may achieve monitoring goals more sustainably than surveillance alone.

Monitoring is also indirectly related to the use of technological tools that allow parents to track not their children's technology use but their physical location. A longitudinal survey from the United States found that approximately 50% of adolescents have their location tracked by their parents, particularly among younger adolescents. With digital tracking technologies, parents can better understand their children's activities. Because adolescence is characterized by a growing need for autonomy and independence, it is important to examine how these tracking tools may influence adolescents' development and well-being. Providing parents with appropriate information and guidance is therefore essential to ensure that these technologies do not undermine adolescents' adjustment (Burnell et al., 2023).

Parental monitoring of adolescents' technology use is neither inherently protective nor inherently harmful. What it does depends on how it is understood, carried out, and perceived within the family (Modecki et al., 2022; Baldry et al., 2019). It can improve parental awareness and reduce risk, especially for younger adolescents, but its effects depend on parenting style, communication patterns, and whether adolescents see it as fair and respectful of their autonomy (Jeffery, 2024; Kim & Davis, 2017). Intrusive or authoritarian surveillance can erode trust and heighten conflict, whereas monitoring that is transparent, proportionate, and open to dialogue aligns better with positive developmental outcomes (Livingstone & Blum-Ross, 2020; Dedkova & Smahel, 2020). Such findings reflect a wider move in the literature away from approaches built mainly on restriction and surveillance, and towards balancing protection with room for adolescents to develop autonomy, critical thinking, and self-regulation online (Wisniewski et al., 2024). Monitoring, then, is less a standalone technical fix than a relational practice bound up with the family's wider social, cultural, and everyday context.

3.2.2. Discussing technology use in the family

Research suggests that communication in general is particularly decisive during adolescence. According to Levin et al.'s (2012) regression model, difficult parent-child communication functioned as a risk factor for low life satisfaction among 11-15-year-olds. Discussion as a digital parenting activity is defined as bidirectional communication between the parent and adolescent about technology use (Modecki et al., 2022). Parent-child discussion about technology use is most commonly conceptualized in the literature as a central component of active parental mediation (Livingstone et al., 2014; Banić & Orehovački, 2024), or an active, engaging component of digital parenting. According to parental mediation strategies defined in the literature, in contrast to restrictive or purely technical mediation strategies, active mediation emphasizes dialogue, explanation, and shared interpretation of children's digital experiences.

It is grounded in the assumption that effective digital parenting is not limited to rule-setting or monitoring, but involves fostering open communication that supports adolescents' autonomy and encourages voluntary self-disclosure (Modecki et al., 2022).

However, as Modecki et al. (2022) argue in their literature review about digital parenting, parent–child discussion about technology use remains conceptually underdeveloped and inconsistently measured in quantitative research. Survey instruments often reduce “discussion” to narrow safety-related items (e.g., talking about online risks), overlooking the relational, bidirectional, and developmentally embedded nature of communication. Most measures focus on parental control and information-gathering rather than on how parents cultivate trust, negotiate privacy boundaries, or co-construct expectations about digital conduct. Qualitative research, in contrast, suggests that families frequently negotiate rules, autonomy, privacy, and appropriate digital behavior. These negotiations reflect the dynamic character of adolescence, where young people's increasing need for independence must be balanced with parental responsibility for safety. Developmental evidence indicates that adolescents are more likely to disclose information voluntarily when parent–child relationships are characterized by warmth and autonomy support, rather than surveillance or coercive control (Modecki et al., 2022). In this sense, discussion functions not merely as a monitoring tool but as a relational dynamic embedded in trust.

Empirically, discussion is one of the most prevalent forms of active mediation. According to EU Kids UK-specific survey results, talking with the child about online activities is more common than engaging in joint online activities (co-use/co-view), which remains relatively rare (Livingstone et al., 2014). According to Banić and Orehovački's (2024) literature review, many parents report discussing, as a possibility, how to learn what their children do online, explaining why certain rules are in place, and encouraging reflection on appropriate behavior, privacy, and digital norms. These conversations often accompany restrictions concerning time limits, personal data sharing, or specific platforms, but do not necessarily replace them. The Council of Europe's (2020) guide “Parenting in the Digital Age” conceptualizes communication as the “cornerstone” of positive digital parenting and proposes practical dialogue tools such as the “WWW” approach – which means asking children who they talk to online, what they do, where they go (which platforms), and a 4th W can be when they go online. Importantly, these questions are framed as invitations to dialogue rather than as interrogative monitoring. The guide recommends integrating technology-related discussions into everyday routines (e.g., meals or car rides), normalizing conversations about online life and maintaining them continuously, even

when topics are uncomfortable.

Despite this normative emphasis on bidirectional communication, empirical findings suggest that conversations are often limited in scope and reactive. A U.S. parent–adolescent survey study found that parental educational mediation – when parents explicitly teach children about online risks and safe media practices – was positively associated with adolescents’ concern for digital privacy. In contrast, more general conversations about media use (“talk”) showed a negative association, possibly reflecting reactive rather than proactive communication (Corcoran et al., 2022). Another U.S. survey similarly shows that adolescents who reported high-quality communication with their parents about internet use were substantially more likely to belong to the low-risk technology-use profile, highlighting the protective role of dialogical mediation within the family context (Moreno et al., 2022). Tirocchi et al. (2024), using qualitative Italian data, show that discussions about smartphone use frequently emerge in response to concrete concerns such as cyberbullying, exposure to pornography, identity theft, or excessive use, rather than as part of a sustained, reflective dialogue. Even the “Smartphone Usage Agreement” – a structured, rule-generating tool designed to facilitate negotiation over responsibilities, sanctions, and monitoring – was often perceived by parents and adolescents as a set of imposed rules rather than a collaboratively negotiated framework. Similarly, Jeffery’s (2024) participatory action research project involving Australian family workshops shows that parent–adolescent conversations are frequently conflict-laden and dominated by advice-giving, warnings, and rule enforcement. Parents tend to communicate risk-focused messages about screen time, inappropriate content, or online dangers. However, they rarely explore in depth what adolescents actually do online or what meanings and benefits they attach to their digital practices. Adolescents, in turn, report frustration that their perspectives are undervalued and that the online sphere is implicitly separated from the offline “real” world, suggesting that parents do not always recognize that significant aspects of adolescents’ everyday lived experiences now unfold in digital environments. At the same time, quantitative dyadic evidence indicates that adolescents’ perceptions of open communication with parents are associated with lower levels of problematic media use, underscoring the protective role of open, supportive communication (Ellis et al., 2025). However, when structured intergenerational dialogue opportunities are created, parents often become aware of adolescents’ digital competence and nuanced risk awareness, indicating that more democratic, two-way communication can reduce conflict and enhance mutual understanding.

The topics parents and children discuss most often are safety, privacy, time management, and

appropriate content. Parents are encouraged to ask about favorite television programs, computer games, and newly downloaded apps, to connect with their children on social media, and to talk through how to handle advertising, misinformation, and risky online behavior – as Gabrielli et al.’s (2018) review notes in relation to the parenting practices recommended by the American Academy of Pediatrics (AAP). These conversations help prevent risks and reduce potential harms to health, and they also give parents a clearer sense of which devices their children use and why. Survey data from Singapore with 12–18-year-olds stress the importance of regularity, since teenagers’ preferences, peer cultures, and platforms change quickly. Discussing media use also supports critical thinking and helps children see their parents’ point of view, strengthening perspective-taking and reflection (Shin & Lwin, 2017). Beyond immediate safety, recent work points to the wider developmental value of dialogue. Kostyrka-Allchorne et al. (2025) show that the qualitative aspects of digital engagement – exposure to risky content and involvement in social comparison – are more closely tied to mental health outcomes than total screen time, and that these links are largely explained by adolescents’ negative self-reactions (feelings of rejection, insecurity, or inadequacy); parental conversations that support emotional processing and reflection may therefore be especially protective. In a similar vein, Adella (2025), drawing on a qualitative analysis of national and international sources on digital parenting, family media literacy, and children’s moral development, describes digital parenting as a value-based, participatory process in which parents act as moral facilitators. On this account, discussion and value clarification do more for moral development than authoritarian or purely restrictive strategies. Without such engagement, algorithm-driven, validation-oriented environments may come to shape children’s moral judgments and norms.

The literature consistently associates technology-related conversations – understood as a form of active mediation – with higher digital skills, reduced harm from online risks, enhanced critical thinking, and stronger relational trust (Banić & Orehovački, 2024; Shin & Lwin, 2017). These discussions are most effective when embedded in an authoritative parenting style characterized by warmth, explanation, and mutual engagement (Modecki et al., 2022). From this perspective, open dialogue can support adolescents’ digital resilience by helping them interpret online experiences, reflect on risks and opportunities, and develop the capacities needed for intentional and responsible use of technology (Wisniewski et al., 2024). At the same time, empirical evidence suggests that this dialogical potential remains only partially realized in everyday family practices. Conversations about technology are often reactive, centered primarily on risk prevention and control, and less frequently oriented toward shared meaning-

making, emotional processing, or collaborative boundary negotiation (Jeffery, 2024; Tirocchi et al., 2024). Thus, while dialogue is widely recognized as a key component of effective digital parenting (Livingstone et al., 2014; Council of Europe, 2020), its developmental and relational potential appears to be only partially utilized in practice.

3.2.3. Parents and adolescents' co-use of technology

Parent–adolescent co-use of technology is commonly conceptualized as a form of active or supportive digital parenting, although its meaning and empirical relevance vary across studies (Modecki et al., 2022; Council of Europe, 2020). Policy-oriented frameworks such as the Council of Europe's (2020) *Parenting in the Digital Age* emphasize shared digital activities – such as playing online games, exploring applications, or engaging with social media together – as key elements of positive digital parenting. In this perspective, co-use is understood less as supervision than as a relational practice that supports trust, modelling of responsible behavior, and opportunities for informal discussion about online norms and risks. Empirical research partly supports these expectations. Shared family activities are generally associated with higher levels of life satisfaction among children (Lietz et al., 2020), and involvement practices can serve as protective factors against online bullying (Martínez et al., 2018). Co-use may also enhance parental awareness of children's digital environments and create opportunities for guidance and learning support (Gabrielli et al., 2018; Delen et al., 2015). Moreover, adolescents who use the internet together with their parents are more likely to engage in beneficial online activities, while joint video gaming has been linked to improved family communication and emotional closeness (Mihalik et al., 2014; Musick et al., 2021; Wang et al., 2018). At the same time, the developmental benefits of co-use are not automatic. Survey evidence from U.S. adolescents indicates that more frequent parent–child co-use was associated with lower levels of concern about online privacy, suggesting that shared media activities alone do not necessarily foster critical digital awareness (Corcoran et al., 2022). Moreover, in a Canadian parent–adolescent dyadic study, more frequent shared technology use was associated with higher levels of adolescents' problematic media use and mediated the relationship between parental social media use and adolescents' problematic media behaviors (Ellis et al., 2025).

By becoming familiar with search strategies, content evaluation, and platform logics, parents are better positioned to guide their children's critical thinking and informed decision-making. At the same time, the systematic review by Modecki et al. (2022) suggests that co-use occupies a somewhat ambiguous position in contemporary digital parenting research. Although it remains a frequently measured category in quantitative surveys – largely inherited from earlier

television-based parental mediation models – it appears far less central in qualitative accounts of everyday family life. With the spread of personalized, mobile, and small-screen devices such as smartphones, digital activities are often individualized and portable, reducing the likelihood of sustained shared engagement. Thus, while co-use continues to be operationalised in survey instruments, its empirical prevalence may be lower than measurement traditions imply. This discrepancy raises questions about whether co-use remains a core practice of digital parenting in adolescence or whether it reflects a legacy concept more applicable to earlier, shared-screen media environments.

Qualitative findings from Jeffery (2024) – about Australian families – further complicate this picture. Parents and adolescents often use digital technologies in parallel rather than jointly, with parents frequently lacking direct experience of the specific platforms, games, or social media spaces their children inhabit. This experiential gap contributes to misunderstandings and conflict, particularly when parental rules are based on limited knowledge. Importantly, however, conflict was found to decrease when parents gained more direct insight into their children’s digital practices, suggesting that shared exploration, joint engagement, or at least informed participation can foster mutual understanding. Yet such co-engagement was not described as common practice; instead, families were characterised by partial detachment and generational asymmetry in digital competence. In this sense, co-use emerges less as a dominant empirical pattern and more as a potential strategy for bridging intergenerational divides.

Domoff et al. (2019) using naturalistic observational methodology argue as well, that contemporary family life is moreover characterised by widespread parallel media use and media multitasking, which often substitutes for genuine shared engagement. Family members may use their own devices in the same physical space without interacting digitally with one another, and background media frequently accompany meals or leisure time. Digital technologies are also intertwined with the extension of paid work into the home, shaping patterns of attention and availability (Livingstone & Blum-Ross, 2020). In many households, regulation of technology use therefore operates less through shared activity and more through contextual rules – such as designating meals as device-free spaces. Qualitative findings indicate that shared meals commonly function as protected family time, governed by explicit or implicit norms that apply to both children and parents. Adolescents generally accept restrictions on smartphone use during meals, although they often view parental work-related device use as legitimate (Mikó & Nagy, 2021). These practices illustrate that shared or restricted media contexts are negotiated within broader patterns of family interaction and work–life balance.

It is therefore useful to distinguish the concept of joint media engagement (JME), which represents a narrower form of shared technology use. While co-use broadly refers to situations in which parents and children use digital technologies together or in the same context, not all instances of co-use involve meaningful interaction. Joint media engagement specifically refers to situations in which two or more people actively interact with media together, engaging in shared attention, conversation, or collaborative meaning-making around media content (Takeuchi & Steven, 2011).

The literature presents a nuanced and partly contradictory picture. Normative and policy-oriented frameworks emphasize co-use as a constructive, relational, and dialogical practice that can foster trust, critical thinking, and responsible digital citizenship (Council of Europe, 2020). Empirical findings, however, suggest that sustained joint technology use is relatively infrequent in adolescence, especially in the era of personal mobile devices (Modecki et al., 2022; Jeffery, 2024). The protective function of shared technology use is conditional: joint engagement may create opportunities to discuss appropriate behavior, privacy, advertising strategies, or online risks, thereby strengthening adolescents' capacity for independent and responsible decision-making. However, co-use alone does not automatically reduce exposure to harm. Where it does occur, its benefits depend on its integration into reflective communication rather than mere physical co-presence (Gabrielli et al., 2018). Co-use therefore appears less as a dominant everyday routine and more as a context-dependent opportunity within broader patterns of negotiation, parallel media use, and the management of family time in digitally saturated households.

3.3. Digital parenting in the framework of Belsky's model

The socio-ecological model of Belsky (1984) has already been used for research on ICT use and parental mediation. Walker and Rudi (2014) used Belsky's model in their study and examined the role of ICTs in child-rearing within the ecological subsystems. To explore parent technology use as a social-ecological phenomenon, Walker and Rudi (2014) used the Parent Education Core Curriculum Framework (PECCF; ECFE Curriculum Committee, 2011), a tool for educational planning. The framework "identifies domains with goals for positive parenting that represent a range of child-rearing contexts and cognitive, attitudinal, or behavioral processes for successful outcomes for parenting, child development, and family life (Walker – Rudi 2014: 17)". In line with Belsky's theory (1984) these domains include: parent development (which includes influences that affect parent maturity, identity formation, and

confidence); parent–child relationships; child development; family development; and culture and community. The results of Walker and Rudi (2014) suggest that mothers’ ICT use for parenting is less frequent than general use in adulthood. Mothers employ ICT to fulfill parenting goals within and across the domains mentioned above: while several types of ICT activities may strengthen parenting in a single domain, a single ICT activity may help fulfill parenting goals across multiple domains. In another study, Rudi et al. (2015) showed the connections between parental use of ICTs to communicate and the three subsystems of Belsky’s model. Rudi et al. (2015: 89) suggest that “ICTs help parents carry out their parenting roles and responsibilities likely in ways that align with children’s developmental stages, particularly as they relate to communication with children, the other parent, and extended family”.

These studies mentioned above were focusing on ICT use, but Dedkova and Smahel (2020) used the model as the theoretical basis of their study about online parental mediation and explored the characteristics of the individual, their partner, and their child that should affect the mediation strategies (they focused on active mediation and monitoring). In line with Belsky’s model, Dedkova and Smahel (2020) found that the subsystems do not affect parenting equally: the contextual subsystem – the partner’s characteristics – affected parental engagement of active mediation, but not monitoring, and the child’s characteristics affected monitoring, but not active mediation. Dedkova and Smahel (2020) suggest that parents tend to interpret frequent internet use as problematic, framing it as a source of strain within the child-related subsystem and thereby increasing the likelihood that they would adopt more controlling strategies, such as monitoring. This result is also consistent with Belsky’s (1984) view of parenting function and stress.

The studies discussed above illustrate how Belsky’s (1984) framework can be applied to the study of technology use within families and its management. Although the model offers a clear way to conceptualize the complexity and interrelated determinants of parenting, its explicit application remains relatively rare in empirical research on digital parenting. At the same time, a growing body of studies has documented the influence of specific socio-demographic and relational factors – such as the age and gender of parents and children, parental educational level, digital competences, socioeconomic position, and the quality of parent–child relationships – on various dimensions of digital parenting and parental mediation strategies (Üstündağ-Alkan et al., 2021). The results of a large Chinese survey suggest that parental mediation can partly mitigate the influence of socio-demographic disadvantages on adolescents’ digital literacy, indicating that active parental involvement may compensate for

structural inequalities in digital skill development (Lou et al., 2024). These findings align with more recent theoretical approaches that emphasize the importance of a broader socio-ecological perspective. From this viewpoint, digital parenting is not determined solely by individual parental decisions but emerges from the interaction of multiple influences, including children's developmental characteristics, family relationships, peer cultures, institutional contexts, and wider social inequalities (Padilla-Walker & Coyne, 2011; Wisniewski et al., 2024). Some previous empirical findings regarding the effects of background factors on digital parenting practices appear contradictory. One possible explanation for this inconsistency may lie in methodological differences. Huang et al.'s (2023) specification curve analysis suggests that the same strategy can produce different results across alternative model specifications, indicating that the observed effects of digital parenting practices are not entirely stable across analytical approaches.

3.3.1. The role of parent-related factors in digital parenting

A substantial body of research demonstrates that digital parenting practices are closely shaped by parental characteristics. Monitoring, co-use, and technology-related discussions do not occur in a social vacuum; rather, they are embedded in gendered divisions of labor, life-course positions, educational resources, parenting styles, and digital skills. The following section organizes these parental factors into analytically distinct dimensions while preserving their interconnections. One of the most consistent findings concerns gendered patterns in digital parenting. Across multiple studies, mothers assume primary responsibility for regulating adolescents' technology use and employ a broader range of mediation strategies than fathers (Bartau-Rojas et al., 2018; Chang, 2019; Üstündağ-Alkan et al., 2021; Warren, 2017; Zhang, 2019). This is closely linked to mothers' greater involvement in children's everyday routines and school-related activities. Based on qualitative data from England, Hollingworth et al. (2011) note that although mothers may be more constrained in their own relationships with digital technology, they are typically charged with managing children's learning at home. According to a qualitative study developed with families and children in Argentina, from children's perspectives, mothers are the consistently present figures who enforce time limits, monitor daily activities, and serve as primary interlocutors regarding online experiences (Duek & Moguillansky, 2020). Fathers more often intervene in cases of serious problems and are frequently responsible for purchasing digital devices. Dedkova and Smahel (2020), using an online survey of Czech parents of 5-17-year-olds, similarly identify a gendered division of labor in ICT mediation, with mothers often retaining overall responsibility even when tasks are

formally shared. Empirically, mothers report higher levels of mediation efficacy, use more active and restrictive mediation, monitor more frequently, and rely more heavily on digital tools to support children's development (Bartau-Rojas, 2018; Chang, 2019; Duek & Moguillansky, 2020; Üstündağ-Alkan et al., 2021; Warren, 2017; Zhang, 2019). Alvarez (2025), in interviews with Danish families, further shows that digital platforms such as school communication systems and shared calendars intensify the cognitive and logistical demands of parenting. Rather than redistributing care work, digitalization often reinforces mothers' roles as "family managers," modernizing rather than eliminating gendered divisions of labor. Heaselgrave (2025) argues that the gender-neutral framing of mediation literature obscures how everyday digital regulation has become part of mothers' unpaid care work. There is less discussion in the digital parenting literature about whether shared use, as a potential component of digital parenting, differs in its patterns for mothers and fathers. However, previous literature on video games suggests that video game co-playing often reflects parents' own gaming experience, which is more common among fathers, leading to greater paternal involvement in shared gaming activities (Nikken & Jansz, 2006). Moreover, fathers are more commonly involved in activity-based forms of engagement, such as playing digital games together or sharing computer-based activities, with joint gaming particularly associated with father-child interaction (Connell et al., 2015).

Parental age also shapes digital parenting practices. According to the quantitative data for the Netherlands from the European survey project EU Kids Online, younger parents are more likely to engage in monitoring (Sonck et al., 2013), and survey data from the USA proves that they are more inclined to share certain digital activities, such as video gaming (Shin & Huh, 2011). Although, according to large-sample American data, correlations between parental age and smartphone or tablet co-use are relatively weak (Connell et al., 2015), younger parents and mothers are generally associated with higher levels of active mediation and co-use (Livingstone et al., 2017; Talves & Kalmus, 2015). These findings suggest that life-course position influences both familiarity with digital environments and willingness to engage in shared activities.

Educational attainment and digital competence emerge as particularly salient predictors of digital parenting practices. Higher parental education is associated with a greater likelihood of adopting mediation strategies and implementing internet-related rules (Kutrovátz et al., 2018; Larrañaga, 2015; Lou et al., 2024; Üstündağ-Alkan et al., 2021). Beyond formal education, several studies highlight the importance of parents' digital skills and technological familiarity.

Survey data from the United States show that cultural capital, particularly parents' digital competencies and openness to new technologies, significantly shape mediation styles (Zhao et al., 2023). Parents with stronger digital skills are more likely to engage in active and restrictive mediation as well as nonintrusive inspection, partly because greater technological competence increases their perceived ability to supervise their children's online activities. Similarly, greater parental knowledge of internet use enhances supervisory capacity (Bartau-Rojas, 2018), and frequent internet users are more likely to install parental control applications (Ghosh et al., 2018). Qualitative synthesis further indicates that parents' internet skills, positive attitudes toward technology, and ability to regulate their own media use strengthen their capacity to set boundaries and guide adolescents' digital practices (Keuhlen et al., 2020). At the same time, empirical findings suggest that the relationship between technological openness and mediation is not entirely linear. Evidence from a nationally representative U.S. sample shows that parents who are more open to new technologies tend to perceive lower online risks and therefore report lower overall levels of mediation (Lauricella & Cingel, 2020). Parents' own media use patterns are also closely associated with those of their children, even during adolescence (Lauricella & Cingel, 2020). Finally, survey data from Turkey indicate that parents' digital parenting attitudes are positively related to their perceived digital parenting self-efficacy, with technological competence and time spent online emerging as key predictors of parents' perceived ability to guide their children in digital environments (Fidan & Olur, 2023).

The relationship between parental well-being and digital parenting appears indirectly in research on technoference. Zhang et al. (2025), in a meta-analysis of 53 studies, identify a moderate positive association between parental technoference – technology-related interruptions during parent–child interactions – and adolescents' problematic media use. When both parents engage in technoference, effects are stronger, suggesting cumulative family-level influences. These findings imply that parental digital distraction may reduce emotional availability and model excessive media behaviors, thereby weakening relational quality. Although mental well-being is not measured directly, the results indicate that parents' attentional presence and interactional quality are consequential for adolescents' digital outcomes.

Parenting style and subjective parental quality further influence digital mediation. Ghosh et al.'s (2018) non-representative survey data from the USA show that autonomy-granting parenting is negatively associated with the use of parental control applications, both from parents' and adolescents' perspectives. Drawing on representative Hungarian survey data,

Kutrovátz (2022) finds that subjective parental quality is positively associated with active mediation, particularly among mothers. Zhao et al. (2023) demonstrate that authoritative parenting is positively associated with active engagement across digital parenting practices, both directly and indirectly through higher digital parenting self-efficacy, whereas permissive parenting is associated with minimal intervention. Social capital – captured through parental involvement in shared offline activities and everyday engagement – also predicts more consistent digital mediation.

To conclude, these findings demonstrate that digital parenting is deeply structured by parental characteristics. Gendered divisions of care work, age, educational attainment, digital skills, parenting style, and attentional presence all shape how technology is interpreted, regulated, and integrated into family life. Parental factors fundamentally configure the moral, relational, and practical frameworks within which digital parenting unfolds.

3.3.2. The role of child-related factors in digital parenting

In addition to parental characteristics, children's own attributes significantly shape digital parenting practices. Parents do not apply uniform strategies to all children; rather, monitoring, technology-related discussions, and co-use are calibrated to children's gender, age, academic trajectory, psychosocial resources, and demonstrated competencies. Gender is one of the most consistently documented child-related factors influencing digital parenting. Research shows that boys' and girls' digital activities differ, and these differences are reflected in parental attitudes and mediation strategies (Livingstone et al., 2014). Findings from the EU Kids Online study indicate that parents tend to regulate boys' online activities less intensively overall, relying more on restrictive strategies, technical tools, and monitoring when they do intervene (Talves & Kalmus, 2015). At the same time, according to an Indian survey of teenagers, boys report lower levels of mediation (Priya & Maheswari, 2025), and a large Italian survey shows that parental control is also less common among boys than among girls (Baldry et al., 2019). These patterns suggest that digital parenting is filtered through gendered expectations about risk, autonomy, and appropriate behavior. Monitoring and control are not evenly distributed but can be shaped by implicit assumptions about boys' and girls' vulnerabilities and capacities.

Among child-related factors, age works as the most decisive determinant of parental mediation strategies (Kutrovátz et al., 2018). From a developmental perspective, adolescence represents a period in which digital environments become particularly salient arenas for experimentation, identity formation, and social interaction. At the same time, developmental research emphasizes

that parental strategies must evolve with children's age: while younger children may require closer supervision and restrictions, adolescents increasingly benefit from autonomy-supportive forms of guidance that allow them to develop self-regulation and digital resilience (Wisniewski et al., 2024). A robust finding across empirical studies is that younger children are more likely to be subject to regulation, monitoring, and restrictions (Gentile et al., 2012; Lee, 2012; Livingstone et al., 2018; Sonck et al., 2013; Shin & Lwin, 2017; Symons et al., 2017). According to an Israeli mixed-methods study, parents of children under 12 frequently discuss limiting phone and internet use. As children grow older, both discussions and restrictions generally decrease. Among adolescents, active and restrictive mediation are more prevalent among younger teenagers (Steinfeld, 2020). By ages 15–18, adolescents are increasingly regarded as digitally autonomous and aware of online risks and opportunities, leading to a general decline in media use (Rodideal, 2020). Restrictive strategies become particularly difficult to sustain during early adolescence (11–15 years) without supportive communication. Age is also central in patterns of co-use. Younger children are more likely to share devices with parents, co-view online content, and engage in joint gaming. As children enter adolescence, co-use declines, reflecting increasing autonomy, privacy expectations, and differentiated media routines. Normative debates further complicate the role of age (Livingstone et al., 2018; Nikken & Jansz, 2013; Sonck et al., 2013). Livingstone and Sylwander (2025) argue that fixed age thresholds in digital governance fail to capture children's diverse levels of maturity and evolving capacities. Rather than relying solely on chronological age, they advocate context-sensitive approaches that recognize developmental variability.

Academic performance represents another important child-related factor. Korie's (2025) study employed a multidimensional qualitative research design that included focus group interviews, individual interviews, and time-use diaries across 11–18-year-olds. The results show that adolescents with higher self-reported GPAs were more likely to experience restrictive mediation linking device access to homework completion. This structured regulation reduced total media time and organized digital use temporally around academic responsibilities, fostering what the author terms "Discretionary Technology Conduct" – internalized self-discipline and time management. In contrast, lower-performing students more frequently reported active mediation or co-viewing strategies. These findings indicate that parents may adjust mediation practices in response to children's academic trajectories, and that structured mediation can support improved or stabilized academic outcomes by limiting displacement of study time and strengthening self-regulatory skills.

Beyond demographic and academic characteristics, psychosocial and developmental resources also shape digital parenting. Dedkova and Smahel (2020), drawing on Belsky's (1984) ecological model, show that child characteristics – particularly age, gender, and frequency of online activity – predict monitoring practices, though not active mediation. Ghosh et al. (2018) further demonstrate that higher frequency of teen internet use, experiences of online victimization, and self-reported peer problems are positively associated with parents' likelihood of adopting technological monitoring applications. Thus, specific risk-related behaviors can trigger heightened parental supervision. European qualitative research by Livingstone et al. (2026) highlights how adolescents' vulnerability to online harms is linked to prior mental health status, emotional regulation capacity, and critical reflection on media use. Young people with anxiety, depression, trauma histories, or experiences of self-harm described how algorithmic personalization intensified exposure to harmful content. At the same time, varying levels of "platform literacy" enabled some adolescents to anticipate and manage algorithmic risks. The effectiveness of such literacy depended on cognitive maturity, psychological resilience, and social support. Livingstone and Blum-Ross (2020) further show that parents adapt strategies not only to age but also to temperament, interests, perceived vulnerabilities, and demonstrated competencies. Experiences such as cyberbullying or excessive gaming may prompt shifts toward more restrictive approaches, while visible digital skills or enthusiasm can elicit parental encouragement and investment. Importantly, children are not passive recipients of regulation; their negotiation, resistance, and agency actively shape digital parenting practices.

Child-related factors – gender, age, academic performance, online behavior patterns, psychosocial vulnerability, and demonstrated competence – substantially shape digital parenting practices. These characteristics shape both the intensity and the form of digital parenting practices, such as monitoring and co-use. In line with socio-ecological perspectives, children's attributes interact with parental and contextual conditions, producing differentiated and dynamic patterns of digital parenting across families.

3.3.3. The role of contextual factors in digital parenting

Digital parenting unfolds within a broader socio-ecological environment that extends beyond individual characteristics of parents or children. Structural inequalities, labor market conditions, institutional ideologies, platform infrastructures, and regulatory frameworks all shape the opportunities, constraints, and meanings attached to digital parenting. Research on problematic internet use also reinforces the idea that the issue and effectiveness of digital parenting are not limited to the narrow domestic setting or to parent-child interactions alone. A survey study

conducted among adolescents in Qatar examined the relationship between adolescents' internet addiction and their developmental environments. The results showed that both family environments (better family relationships) and school environments (school setting) were significant negative predictors of adolescent internet addiction. These findings suggest that preventive interventions and digital parenting programs should not focus solely on adolescents but should also involve key contexts of their development, particularly family and school environments (Chemnad et al., 2023). Understanding contextual factors is therefore essential for situating digital parenting within wider social transformations.

Empirical findings regarding socioeconomic status (SES) are mixed. Media consumption tends to be higher among lower-education and lower-income groups (Rideout et al., 2010; Roberts, 2008), while Top (2016), using U.S. survey data of parent-adolescent dyads, reports more frequent active mediation strategies in families with higher household income, but no significant income effect on co-use of technology. These inconsistencies suggest that digital parenting practices are embedded in broader media routines and consumption patterns rather than being mechanically determined by SES. At the same time, socioeconomic position shapes how parents interpret technology and define "good parenting." Livingstone and Blum-Ross (2020) show that middle-class parents frequently frame digital engagement in terms of competitiveness and skill acquisition, investing strategically in devices and extracurricular learning to secure imagined future advantages. Economic insecurity, by contrast, may intensify fears of children "falling behind." According to Hungarian data, higher-status parents often emphasize enrichment activities and offline alternatives to reduce screen time (Kutrovátz, 2022), whereas – as Australian and American results show – in lower-income families providing access to digital devices and free applications may itself be perceived as responsible parenting (Radesky et al., 2016; Jeffery, 2021). In addition, parents' interpretations of appropriate digital parenting are often shaped through comparison with other parents and through widely circulating public discourses about risks, opportunities, and responsible parenting, meaning that decisions about children's technology use are negotiated not only within the family but also in relation to broader social expectations (Livingstone & Blum-Ross, 2020).

Quantitative results from the USA demonstrate that inequalities in parental resources influence digital parenting both directly and indirectly. Economic capital, which includes household income, housing conditions, internet infrastructure, and the number of devices, shapes perceived risks and preferred strategies. Lower-income parents are more likely to rely on

authoritarian surveillance and nonintrusive inspection, while higher income and greater material access are indirectly associated with more dialogic forms of mediation through heightened risk awareness. Crucially, resource differences operate through mediating mechanisms such as digital parenting self-efficacy, perceived risks, and perceived skill gaps between parent and child. Digital parenting divides thus arise where structural resources and subjective readiness meet (Zhao et al., 2023). Similarly, the results of an Israeli survey with parents of elementary school-aged children show that digital capital – parents’ access to digital tools, skills, and confidence – functions as a bridge between structural resources and parental engagement. Digital capital can reinforce existing advantages but may also serve as leverage for reducing inequalities if strengthened among disadvantaged groups (Addi-Raccah, 2024). Ollier-Malaterre et al. (2019) argue that the knowledge, motivation, and skills needed to manage technology are unequally distributed across social classes, as part of the broader transmission of cultural capital. As a result, dominant groups develop a form of digital habitus that gives them advantages, including more deliberate attitudes toward connectivity, such as consciously limiting or retreating from digital use.

Work-related conditions further shape digital parenting. Greater work–life balance enables parents to be more present in everyday routines and more involved in children’s technology use. Based on a representative survey from the U.S., time spent with children is positively associated with co-use frequency (Connell et al., 2015). However, joint internet use between adolescents and key socialization agents remains relatively rare, partly because teenagers often surpass adults in ICT competence (Shin & Lwin, 2017). In line with Belsky’s (1984) socio-ecological model, Dedkova and Smahel’s (2020) Czech quantitative results show that contextual subsystems – particularly partner characteristics – affect active mediation but not monitoring, indicating that different forms of mediation are differentially sensitive to contextual influences. Although Li and Dou (2020) did not examine digital parenting directly, their findings are worth noting given the limited number of digital parenting–specific results concerning work–life balance. According to their model, work–family conflict does not directly influence adolescents’ self-control; however, it exerts an indirect effect through lower parental involvement and weaker monitoring or supervision among Chinese mothers. Furthermore, although they concern younger children, the results of a US survey should be mentioned, because they are unique and capture the role of contextual factors well. Griffith (2023) demonstrates that parenting stress moderates the relationship between parental media beliefs and digital parenting practices: under higher levels of stress, parents are less able to regulate

children's media use in line with their own attitudes toward screen media.

Household structure, including family size, may indirectly influence digital parenting. Livingstone et al. (2015) suggest that having multiple children can dilute parental oversight, while results from a Nigerian survey indicate that larger families may experience reduced levels of control (Adigwe, 2021). Similarly, survey data from Turkey indicate that the number of children in the household is negatively associated with parents' perceived digital parenting self-efficacy, suggesting that managing children's digital environments may become more challenging in larger families (Fidan & Olur, 2023). However, using the Dutch EU Kids data, Sonck et al. (2013) report that larger families among 9-16-year-olds are more likely to use restrictive mediation. These mixed findings indicate that household size does not deterministically shape mediation but interacts with time constraints, relational dynamics, and available resources. Partner dynamics also matter. Dedkova and Smahel's (2020) Belsky (1984) adaptation, using Czech survey data, shows that characteristics of the partner subsystem are associated with active mediation, highlighting that digital parenting is embedded in broader patterns of relational coordination and the division of labor within the family. In addition, Lou et al. (2024) report that adolescents living in divorced families experience lower levels of parental mediation and display lower levels of digital literacy, suggesting that family structure may also shape both parental involvement and adolescents' digital skill development.

Institutional contexts, particularly educational settings, also play a significant role in shaping digital parenting. Molnár's (2023) qualitative study of Waldorf-educated families in Romania demonstrates how pedagogical ideology informs household regulation of digital devices. In these families, access to digital media is deliberately delayed in accordance with Waldorf principles emphasizing imagination, sensory engagement, and interpersonal interaction. Parents – especially mothers – align closely with school recommendations, and digital parenting is characterized by authoritative practices combining clear restrictions, technical controls, and active mediation. Minimal early exposure normalizes limited screen use, reducing conflict. This case illustrates how school ethos and institutional expectations structure family-level digital practices. Regulatory frameworks constitute another layer of child-related context. Livingstone and Sylwander (2025) critique age-based bans and bright-line thresholds in digital governance, arguing that fixed age limits lack developmental grounding and risk undermining children's rights to participate. Policies based on chronological age fail to capture variability in maturity and vulnerability. Grounding regulation in the UN Convention on the Rights of the Child principle of evolving capacities would better balance protection and participation. Such

governance structures significantly condition the scope and meaning of digital parenting by defining parental responsibilities and normative expectations.

At a macro level, platformization fundamentally reorganizes family life. Livingstone and Sefton-Green (2024) conceptualize the family as a key site where platform logics – data extraction, algorithmic governance, commercialization, and continuous connectivity – become embedded in practices of care and communication. Parenting practices and intergenerational authority are reshaped by platform affordances and metrics that define norms of visibility and responsiveness. Nevertheless, families actively negotiate and appropriate these infrastructures. Livingstone et al. (2026) further emphasize that algorithmic amplification and monetization strategies shape children’s exposure to emotionally charged content in ways that exceed parental control. Parental mediation thus operates within opaque, commercially driven ecosystems, challenging approaches that place primary responsibility at the household level and underscoring the need for institutional regulation and safety-by-design standards.

Digital parenting must therefore be conceptualized within a multi-layered socio-ecological framework. Empirical findings demonstrate that socioeconomic inequalities structure both material access and mediation styles (Zhao et al., 2023; Addi-Raccah, 2024), while class-based cultural capital shapes attitudes toward connectivity and “good parenting” (Livingstone & Blum-Ross, 2020; Ollier-Malaterre et al., 2019). Work-related conditions and partner dynamics further influence mediation patterns (Connell et al., 2015; Dedkova & Smahel, 2020; Li & Dou, 2020), and institutional ideologies, such as Waldorf pedagogy, can normalize specific restrictive and dialogic practices (Molnár, 2023). At the macro level, platform infrastructures and algorithmic governance exceed parental control and redefine the conditions under which mediation operates (Livingstone & Sefton-Green, 2024; Livingstone et al., 2026), while regulatory frameworks shape normative expectations about parental responsibility (Livingstone & Sylwander, 2025). These findings show that digital parenting cannot be reduced to individual competence or preference; it is produced jointly by family-level processes and by broader structural, institutional, and technological forces.

3.4. Technology use in the family during the time of COVID-19

The COVID-19 pandemic radically reorganized everyday family life, and this reorganization was closely intertwined with transformations in children's and parents' technology use. In relation to COVID-19, a substantial proportion of the articles addressing technology use within the family and digital parenting focus on younger children. This age group required particular

attention, as the difference between pre-pandemic and pandemic screen exposure was especially pronounced for them, and they are less autonomous in assessing online risks and generally less competent in technology use than older children. When collecting and synthesizing the literature below, although I aimed to prioritize findings related to adolescents, I also incorporated results concerning younger children (aged 8-10 or even younger) where they were substantively relevant to the research focus.

School closures, remote work, restricted mobility, and reduced access to offline leisure activities led to a sharp increase in children's screen exposure across age groups and national contexts. Quantitative studies from Turkey, the United States, Portugal, and other countries consistently report significant growth in daily screen time during lockdowns, often accompanied by reduced physical activity, weight gain, irritability, and changes in sleep patterns (Ceylan et al., 2021; Eales et al., 2021; Eyimaya & Irmak, 2021; Oliveira et al., 2024). Among adolescents, problematic internet use has become more prevalent: Orhon et al. (2023) found that based on Turkish survey data, 15.5% of 14-18-year-olds exhibited problematic internet use, and poor sleep quality was 2.5 times more likely among those affected.

Age consistently emerged as a major explanatory factor in these developments. Older children and adolescents spent more time online and were also more likely to exhibit problematic online behaviors and sleep difficulties (Eales et al., 2021; Orhon et al., 2023). Parental mediation also differed by age: with older children, parents were more inclined to focus on content quality and interpretation, whereas younger children's screen use was more often framed in terms of time management and protection (Karabanov et al., 2021). Edwards (2021) further argues that, in early childhood, online experiences are shaped by adult mediation, technology design, and broader socio-economic conditions, suggesting that the youngest age group requires distinct analytical attention.

At the same time, findings do not support a uniformly negative interpretation of increased screen exposure. Descarpentry et al. (2024), analyzing a French cohort study with parents of 3–14-year-olds, demonstrate that persistent high screen time was not uniformly associated with adverse outcomes. While greater exposure to peer problems across age groups and increased externalising behavior among 11–14-year-olds were observed, no clear associations were found with emotional symptoms or hyperactivity. These results suggest a more differentiated pattern of effects once background factors are taken into account.

While quantitative studies document increases in screen time and associated risks, qualitative research reveals the ambivalent meanings attached to these changes in everyday family life. Australian and U.S. parents described screens as both indispensable and problematic: they enabled schooling, social connection, and continuity, yet also intensified conflicts, blurred family boundaries, and reduced face-to-face interaction (Arundell et al., 2022; Hammons et al., 2021; Jeffery, 2021). In Canadian families, children actively repurposed platforms such as Zoom, YouTube, and TikTok for creative play, shared celebrations, and collaborative social interaction, contributing to family resilience and well-being (Burke et al., 2023). Rather than a simple narrative of harm, these accounts portray technology as a central infrastructure of coping while also revealing tensions around overuse, fatigue, and relational strain. Korhonen (2021) similarly emphasizes this dual character: screen time increased substantially, particularly among families facing financial hardship and maternal psychological stress, yet digital media also supported social connectedness and coping amid isolation.

Parental attitudes and strategies evolved in response to these unprecedented conditions. Qualitative evidence from U.S. focus groups during the COVID-19 pandemic indicates that parents experienced children's screen use as largely unavoidable due to remote schooling and limited alternatives. Many described difficulties enforcing screen time rules, often relaxing restrictions in response to work demands, limited supervision capacity, and the broader disruption of everyday routines (Eales et al., 2021; Hammons et al., 2021). Nonetheless, mediation remained present in various forms. Karabanov et al. (2021), examining Israeli parents of young children during the COVID-19 lockdown, found moderate levels of parental mediation. Parental involvement was shaped by both child-related (e.g., age) and structural factors (e.g., parental education, family size). Parents of older children were more likely to interpret and discuss digital content and appeared to prioritize content quality over strict time monitoring. More highly educated parents were also more engaged in selecting and monitoring the quality of digital content.

At the same time, regulatory approaches varied considerably. Quantitative restriction – such as limiting total screen time – often dominates over qualitative regulation of specific content (Karabanov et al., 2021; Eyimaya & Irmak, 2021). Inconsistent parenting practices and the absence of clear household rules for internet use have been associated with greater screen exposure and higher levels of problematic internet use (Eyimaya & Irmak, 2021; Orhon et al., 2023). American mixed-method data indicate that both total screen media use and problematic media use increased significantly during the early pandemic period, with a steeper rise among

school-age children. The increase was associated with distal, proximal, and maintaining factors, including the COVID-19 pandemic, distance learning, child behaviors, peer and sibling influences, and parental mediation practices (Eales et al., 2021). According to a Canadian qualitative study using day-in-the-life methodology, parents initially expressed concern about increased screen time during lockdown but gradually became more comfortable with children's digital engagement as digital play and online communication emerged as important sources of social connection and family resilience (Burke et al., 2023). However, a Turkish study based on quantitative data reports that many parents did not implement structured daily planning despite recognizing the challenges posed by extended home confinement (Ceylan et al., 2021).

Beyond age and parental mediation, socioeconomic and employment-related factors significantly shaped children's screen use during the pandemic. In Turkey, lower household income, maternal employment status during the lockdown, and inconsistent parenting practices were associated with higher screen time (Eyimaya & Irmak, 2021). Similarly, Portuguese data indicate that socioeconomic vulnerability and financial hardship were associated with increased screen exposure and reduced physical activity, while children's well-being was linked to sleep quality, active leisure, and supportive family coping strategies; parental employment status, education level, and socioeconomic change structured these activity patterns (Oliveira et al., 2024). Parental education appears to influence not only the quantity but also the quality of digital engagement. Karabanov et al. (2021) show that more highly educated Israeli parents reported greater involvement in planning and selecting digital content during lockdown. However, associations with overall screen exposure are not uniform: survey evidence from New Zealand suggests that patterns of use are context-dependent and cannot be reduced to parental education alone (Hinten et al., 2023).

Beyond household-level practices, broader structural inequalities further shaped digital parenting and children's experiences. Kabir et al. (2022) demonstrate that limited technological access, rural residence, lower parental education, and the lack of a private study space reduced e-learning readiness among Bangladeshi female nursing students. Otero-Mayer et al. (2021) similarly find that family-school cooperation during Spanish school closures depended on school type and parental education, with stronger communication in higher-educated families and private or state-assisted schools. Burke et al. (2023) explicitly identify relatively privileged socioeconomic position as enabling stable home environments, device access, and sustained parental involvement. The digital divide during the pandemic thus extended beyond mere access to devices, encompassing differences in parental resources, institutional support,

preparedness, and the quality of mediation and educational continuity.

To summarize the literature, the COVID-19 period revealed widespread increased screen exposure, yet its consequences were highly heterogeneous. Its implications depended on children's age, parental mediation strategies, family functioning, parental stress, education, income, employment, and access to material and institutional resources (Descarpentry et al., 2024; Eales et al., 2021; Eyimaya & Irmak, 2021; Hinten et al., 2023; Oliveira et al., 2024). Rather than a uniform shift toward digital dependency, the evidence points to differentiated trajectories shaped by structural inequalities, parenting practices, and relational dynamics within households.

3.5. The Hungarian context

This section situates digital parenting within the Hungarian context, moving from the broad to the specific: it begins with the country's overall state of digitalization, turns to the national strategies and institutions that address children's digital lives, narrows to the regulatory and everyday conditions of public education, considers the legal framing of parental responsibility, and finally examines how adolescents' technology use and parental mediation have actually changed over the past decade. The central argument of this section is that, in Hungary, digital parenting has been shaped by a combination of expanding child access, uneven adult digital competencies, fragmented institutional guidance, and a strong tendency to locate responsibility at the level of families.

3.5.1. Digitalization in Hungary: skills, society, and the economy

Digitalization in Hungary has been shaped by national strategies, policy programs, infrastructural developments, and their uneven implementation. In Hungary, several initiatives have been launched in recent years to create the conditions for the accessibility and development of digitalization; however, the European Union's DESI index shows where the country still lags significantly, despite government strategies and programs. Digitalization is intensifying across all sectors, and digital skills are no longer merely an expectation in the ICT sector. As a result of ongoing digital development, adolescents and teenagers today will likely need to possess substantially different digital competencies upon entering the labor market than their parents did. The measurable gaps in general digital competencies among adults suggest a significant digital divide between parents and their children. As noted previously, international research has shown that parents' limited digital competence and overly general advice on technology use may undermine the credibility of parental guidance from children's perspective

(Haddon, 2015), and parents' digital competencies influence how they monitor their children's digital activities (Dedkova & Smahel, 2020).

The European Commission has been monitoring Member States' digital progress through the Digital Economy and Society Index (DESI) reports since 2014. The five dimensions of the index are connectivity, human capital, use of internet services, integration of digital technology, and digital public services. As of 2023, and in line with the Digital Decade Policy Programme 2030, DESI is now integrated into the State of the Digital Decade report and used to monitor progress toward the digital targets. According to the European Commission (2023), Hungary has made some progress in digital transformation – particularly in expanding very high-capacity fixed networks and 5G coverage – but still needs to significantly improve the population's digital skills to fully exploit these infrastructure developments and advance public and private sector digitalization. According to the DESI 2023, in the EU, 69% of SMEs have at least a basic level of digital intensity, while in Hungary, this rate is only 52%. Most companies – especially SMEs – still do not take advantage of digital technologies. The Hungarian population also remains below the EU average in basic digital skills. In Hungary, 49% of the population aged 16-74 has at least basic digital skills, compared with 54% in the EU. The Digital Decade target is 80% by 2030. In contrast, 22% of people in Hungary have above-basic digital skills, compared with 26% in the EU. For digital parenting, this matters because parents are expected to guide children in a technological environment in which children's access is expanding faster than many adults' own digital competencies.

According to the European Commission (2017), the results of Special Eurobarometer 460 ("Attitudes toward the impact of digitization and automation on daily life," conducted between 18 and 27 March 2017) indicate comparatively moderate levels of technological optimism in Hungary. In Hungary, 17% of respondents believe that the most recent digital technologies have a very positive impact on the economy, compared to the EU average of 23%. Similarly, 12% consider their impact on quality of life to be very positive, compared with the EU average of 23%. Regarding society as a whole, 10% of Hungarian respondents perceive a very positive impact, compared to 15% at the EU level. In addition, 38% of Hungarians report negative views toward automation.

3.5.2. National strategies and child protection in the digital environment

To present the Hungarian context, it is important to review, on the one hand, governmental initiatives that address children's technology use and/or support parents in this area, and, on the

other hand, corporate initiatives, primarily originating from the telecommunications sector.

The Hungarian Digital Child Protection Strategy¹, adopted in 2016 as part of the Digital Welfare Programme and based on the results of the 2015 InternetKon national consultation², seeks to provide a comprehensive framework for protecting children in digital environments and preparing them for conscious digital participation. The strategy has a dual objective: first, to protect children from harmful online content and risks, and second, to promote value-creating and conscious internet use, emphasizing not the rejection of digital technologies but their safe and reflective use. The document highlights that developing media literacy and strengthening digital competencies constitute a societal-level responsibility in which parents, educational institutions, the media, and state actors all share responsibility. More recently, Hungary's Artificial Intelligence Strategy (2025–2030)³ has extended this policy framing to cover AI specifically. Within its education and competence-development pillar, it sets the explicit aim of preparing young people for the particular risks of the technology and of equipping parents and teachers to protect children and to guide appropriate use. Among its concrete measures it names a dedicated parent- and child-protection program addressing the everyday risks and appropriate use of AI. This signals that, at the level of national strategy, digital child protection is beginning to incorporate AI, and that parents continue to be framed as primary agents of children's protection alongside schools and the state.

Within this shared-responsibility framework, parents are framed as primary agents in children's digital socialization: the strategy holds that parents are expected to provide support in online environments comparable to everyday offline parenting, while also acknowledging that this requires enhancing parents' own media literacy and awareness. Among its key concepts, the strategy⁴ explicitly warns against the danger of over-restriction, referring to situations in which parents – motivated by moral panic – limit children's online choices and actions to such an extent that they prevent them from benefiting from the opportunities offered by the internet. According to the strategy, excessive restriction is counterproductive and may produce effects opposite to those intended; school-based media literacy education is presented as a potential corrective mechanism. The strategy further emphasizes the development of parental media literacy as an implementation tool, recommending accessible, affordable training programs that

¹ <https://digitalisjoletprogram.hu/hu/tartalom/dgys-magyarorszag-digitalis-gyermekvedelmi-strategiaja.html>

² <https://2015-2019.kormany.hu/hu/miniszterelnok-kabinetiroda/parlamenti-allamtitkar/hirek/elkeszult-az-internetkon-eredmenyeit-megvalosito-kormany-eloterjesztes>

³ <https://kormany.hu/dokumentumtar/magyarorszag-mesterseges-intelligencia-strategiaja-2025-2030-1>

⁴ <https://digitalisjoletprogram.hu/hu/tartalom/dgys-magyarorszag-digitalis-gyermekvedelmi-strategiaja.html>

enable parents to apply the knowledge they gain in everyday parenting practices, while also encouraging the provision of free learning opportunities. In parallel, the education system and educators play a key role in fostering digital competencies, promoting responsible media use, and developing the ability to recognize and manage online risks, which also underscores the need for curriculum development and teacher-training reform. The strategy additionally discusses the existing institutional protection system in detail, including the role of the National Media and Infocommunications Authority (NMHH), whose research and initiatives are also addressed elsewhere in this dissertation. Overall, the strategy conceptualizes children's digital safety and well-being as a shared societal responsibility, in which family-based upbringing and institutional support mutually reinforce one another to enable conscious and safe digital participation.

Within the Hungarian regulatory environment, the Digital Child Protection Strategy remains the primary comprehensive reference point for children's online protection. However, the post-2016 period has been characterized more by thematic integration into broader digital competence policies than by the adoption of a new standalone strategy. This is particularly significant given the substantial transformation of the technological and digital environment since 2016. The Digital Child Protection Strategy (2016) continues to be referenced in school and institutional documents.

The National Media and Infocommunications Authority (NMHH) is Hungary's independent regulatory authority responsible for overseeing media services and electronic communications, and for promoting safe and lawful digital environments, including the protection of minors online. The NMHH has launched several research projects and initiatives concerning children's internet use. The Internet Hotline (IH)⁵, operated by the NMHH since 2011 as a public-interest service, aims to make the internet safer by enabling users to report content that is illegal or harmful to minors. Over nearly thirteen years, more than 19,000 reports have been processed. Reports can be submitted in Hungarian or English across categories such as non-consensually shared content, online child sexual abuse material, online harassment, racist or hateful content, promotion of illegal psychoactive substances, violent or illegal content, phishing, and other content harmful to minors. Reports may be submitted via an online form or email. The NMHH has also published a platform-specific guide that provides links and instructions for reporting

⁵ <https://nmhh.hu/internethotline/>

harmful content directly on various online platforms.

Through its onlineplatformok.hu⁶ website, the NMHH provides a “digital guidebook” that includes articles, research reports, and information on the authority’s regulatory role in the online environment. Similarly, the gyerekaneten.hu⁷ website supports understanding young people’s digital habits. Among the available publications is the Guidebook for Parents of Gamer Children⁸, a concise resource for parents. The guide discusses the psychology of gaming and the different types of games, presents a balanced perspective that highlights potential benefits, and addresses parental concerns about virtual friendships and clarifies misconceptions about gaming addiction. It offers age-specific recommendations on gaming time and provides practical advice on associated risks and strategies for parental support.

In 2023, the NMHH published a catalogue of filtering and parental control software⁹, including information on tool names, links, language options, pricing, subscription plans, supported platforms and operating systems, additional functions, and installation guides. The catalogue lists seventeen filtering tools. Closely related to this is the publication “You Have a Tool in Your Hand – A Guide to the Use of Digital Parental Control”¹⁰, a practical handbook for parents that explains how to make children’s use of digital devices safer through both technical settings and conscious parenting practices. The guide stresses that technical monitoring tools are only supplementary; trust, communication, and jointly developed rules are equally important. It recommends creating a digital household agreement covering screen time, device-free periods, app downloads, online behavior, and social media use, and provides practical instructions on parental control settings across mobile devices, app stores, streaming services, social media platforms, and video games. It also highlights the importance of age ratings, content filtering, purchase restrictions, location tracking, and safe app use, emphasizing that the aim of parental control is not constant surveillance but the development of safe, autonomous digital competencies.

Beyond governmental and public initiatives, the role of telecommunications companies is also noteworthy. Their contributions mainly appear through thematic websites designed to support

⁶ <https://onlineplatformok.hu/>

⁷ <https://gyerekaneten.hu/>

⁸ https://gyerekaneten.hu/kiadvany/Kezikonyv_gamer_gyerekekhez

⁹ <https://nmhh.hu/cikk/190675/Szurowszoftverkatalogus>

¹⁰ https://gyerekaneten.hu/kiadvany/Van_eszkoz_a_kezedben

digital parenting, such as Telekom – Hello Parent¹¹, One – Protecting Minors in the Digital World¹², and Yettel – How to Be a Good Digital Parent¹³. These platforms consistently focus on issues of digital parental control. Their content typically falls into two categories: internally produced materials or content developed through professional partnerships. In the latter case, market actors often collaborate with civil organizations to create educational content that simultaneously supports responsible branding and product promotion, while NGOs contribute expertise aligned with their mission. Despite differing motivations, both approaches contribute to parental education and guidance toward conscious and responsible digital parenting (Farkas et al., 2025).

Taken together, these initiatives show that parental guidance exists in Hungary, but it is fragmented across state, regulatory, civil, and market actors. Much of it is practical and risk-oriented, with a strong emphasis on parental control tools, while less is known about how widely these resources are used by parents in everyday family life.

3.5.3. Digital technology in public education: regulation and conditions

Narrowing from national strategy to the everyday setting of the school, this subsection considers how digital technology has recently entered, and been regulated within, Hungarian public education – first through the pandemic’s abrupt shift to home-based schooling, then through a new regulatory turn restricting personal devices, against the backdrop of a system whose capacity is unevenly stretched.

The COVID-19 pandemic temporarily relocated a substantial part of formal education into the home and accelerated adolescents’ engagement with digital devices. In a survey of Hungarian high-school students, Katona et al. (2021) found that during the distance-education period screen time increased while physical activity – particularly muscle-strengthening exercise – declined. At the institutional level, Kopp and Pesti (2025) examined how Hungarian schools responded, documenting processes of organisational learning and resilience through which two schools adapted their practices to emergency remote teaching. Studies of young people’s own perceptions add a further dimension: Szabó et al. (2023), drawing on 15–29-year-olds in Hungary, report an ambivalent assessment in which online education was viewed more positively with respect to assessment and evaluation but more negatively with respect to the

¹¹ <https://helloszulo.hu/>

¹² <https://www.one.hu/kiskoruakvedelme>

¹³ <https://www.yettel.hu/tippek/hogyan-legyunk-jo-digitalis-szulok>

effectiveness of learning and its erosion of social relationships, with face-to-face schooling gaining in perceived value. Taken together, these findings indicate that for this age cohort the pandemic functioned as a period of intensified, and in part involuntary, digital immersion, experienced simultaneously at home and through the school.

Since the 2024/2025 school year, a dedicated regulation has governed the use of personal devices in Hungarian schools. Government Decree 245/2024 (VIII. 8.) designates telecommunication devices – mobile phones in particular – together with image- or sound-recording devices and internet-capable smart devices as “restricted items” throughout the school day in grades 1–8 of primary school, grades 5–12 and 9–13 of high school, as well as during activities in dormitories, art schools, and vocational schools. Under the decree, such devices may be brought in but must be handed in at the start of the school day, stored in a designated locked place, and returned at the end of the day; a teacher or the school head may authorise possession or use for a specified purpose and period, recorded in the school administration system. The concrete procedure is set at the institutional level: Decree 20/2012 (VIII. 31.) EMMI requires the school rules to lay down the rules for using restricted items in lessons and activities in line with Decree 245/2024, and further provides that teachers themselves may use their own mobile and digital devices during lessons and while supervising students only for educational purposes, save for defined emergencies (§5(2)h, §17). The European Commission’s Eurydice service summarises the stated rationale as protecting young people and ensuring the continuity of teaching, and notes that the rules constrain teachers’ as well as students’ phone use (Eurydice, 2024).

Early empirical evidence describes how these rules have been implemented and experienced. In a nationwide survey of 1,198 secondary-school teachers, Pozsonyi et al. (2025) found that two-thirds (64.7%) permit device use in class for learning purposes only, that just over a quarter (27.9%) enforce a complete ban covering lessons and breaks alike, and that only 2.3% apply no restriction; complete bans were significantly more common in villages and smaller towns than in county seats and the capital, while no difference was found by school operator. The authors report a marked decline in phone-related activity together with modest increases in peer conversation, outdoor play, and non-physical games such as chess and cards, and a moderate rise in the reading of printed books, with the share of students reported as not reading at all falling from 44% to 37%. They also record teacher-reported difficulties, including concealment of devices, handing in non-functioning phones, tiredness attributed to night-time “catching up” on phone use at home, and the greater effort required to use ICT in class without students’

personal devices. Complementing this teacher-focused evidence, Kovács-Szépvolgyi et al. (2026) surveyed parents of children aged 6–18 and found that support for the regulation rested largely on a general normative conviction rather than on direct experience; they characterise the measure as a top-down policy adopted without broad social consensus or student participation, and observe that in practice it tends to generate strategies of rule-circumvention among students.

However, the capacity of schools to provide such structured digital guidance cannot be taken for granted. These regulatory changes unfold against the backdrop of a public-education system whose capacity to function effectively is unevenly stretched. Among the factors that can hinder it is a persistent shortage of teaching staff: in PISA 2022, 41% of students in Hungary attended schools whose principal reported that instruction was hindered by a lack of teaching staff, up from 34% in 2018, with vacancies concentrated in schools serving disadvantaged pupils (OECD, 2023; Varga, 2024). Where teaching capacity is stretched in this way, so too is the scope for the structured, pedagogically guided digital activity that formal schooling might otherwise provide.

For parents, these school-level developments are ambivalent. On the one hand, school restrictions may reduce the burden of regulating phone use during the school day. On the other hand, they may also relocate conflicts over access, compensation, and “catching up” to the home, especially when students respond to school restrictions by intensifying use outside school hours.

3.5.4. Digital parenting from a legal perspective in Hungary

Beyond strategy and school regulation, the normative context of digital parenting in Hungary is also shaped by law. Recent Hungarian legal scholarship has begun to define the scope and limits of parental responsibility in the digital age; while the broader conceptualization of that responsibility as a relational, socially embedded construct is set out in the theoretical framework (see Chapter 2.2.2), the present subsection focuses on its specifically Hungarian legal contours.

Digital parenting presents varied challenges for parents striving to be “good-enough” caregivers. Parenting mistakes are generally considered part of ordinary child-rearing and do not normally constitute grounds for legal action by children. However, sharenting introduces specific legal and ethical concerns because online content is public, persistent, and difficult to remove, thereby making children vulnerable in the long term. Unlike child actors, children

whose lives are documented online may remain continuously identifiable across digital spaces. The legal situation is therefore complex: parents may simultaneously act as protectors of their child's interests, as actors with limited control over digital platforms, and as potential violators of their child's privacy. Family law provides only limited sanctions in such cases, and removing a child from the family is considered only in extreme circumstances, typically when privacy-related harms are severe. This raises broader questions about the applicability of personality-rights protections within family-law conflicts. Ultimately, these issues extend beyond private law and individual parental responsibility, highlighting the need for shared societal responsibility, including the role of platforms and other social actors (Molnár, 2025).

Digitalization affects several areas of family law, particularly parental duties related to care and upbringing, child maintenance, and contact arrangements. Research indicates that digital devices appear in children's lives at an increasingly early age and that parental device use is a strong behavioral model. This places considerable responsibility on parents, especially given the developmental importance of early childhood. In legal practice, digital devices such as mobile phones, computers, and internet access are increasingly regarded as basic necessities rather than luxuries, as they contribute to children's healthy development. Digital communication tools also play an important role in maintaining relationships between non-resident parents and their children. Although digital devices have become a natural part of family life, parents' digital competencies do not always keep pace with their widespread availability. The development of children's digital competencies is increasingly recognized as a right; however, digital use must remain aligned with the child's age and best interests. As research in this field is still emerging and the technological environment changes rapidly, balanced and conscious parenting practices remain essential (Szeibert, 2025).

Parental responsibility and parental custody overlap in several respects; however, parental responsibility is broader, while parental custody is more narrowly defined and more specifically regulated by law. The legal system primarily provides a framework for parental responsibility, leaving its practical content to parents, whereas parental custody includes more detailed rules intended to address common disputes and situations. Even within this framework, legal decisions must consider individual circumstances to ensure fair and lawful outcomes. Parents are therefore expected to support their child's physical, moral, and intellectual development, which today includes guiding and supervising the child's digital presence in an age-appropriate way and modelling responsible digital behavior, particularly in online and social media contexts (Kriston, 2025). Taken together, these legal debates show that Hungarian law increasingly

recognizes digital presence as part of children's everyday development, but it still leaves much of the practical work of digital guidance to parents.

3.5.5. Adolescents' technology use and parental attitudes in Hungary: a decade of change

The most immediate setting in which adolescents' technology use unfolds is the home. National survey evidence indicates that digital devices are near-ubiquitous in Hungarian families with school-aged children and that parents rely largely on informal sources of guidance when mediating their use (NMHH, 2025), while longer-term trends – high maternal employment and the dual-earner norm, near-universal household internet and smartphone access, and persistent differences in material circumstances by settlement type and region (KSH, 2024) – shape the conditions under which parenting is enacted.

This section reviews the Hungarian empirical evidence through the lens of change over the past decade. The richest source is the NMHH's Digital Parenting research series with 7–16-year-olds and their parents, launched in 2017 and repeated in 2020 and 2025, which offers a near-longitudinal picture of how children's device use, online activities, and parental attitudes have shifted (NMHH, 2025). This is complemented by the earlier EU Kids Online baseline (Ságvári, 2012), passive-tracking evidence from the DigiKid study (Ságvári & Kollányi, 2023), and studies of parental attitudes and social inequalities (Bodó, 2017; Konok et al., 2020). A methodological caveat runs through the comparison: the NMHH itself changed how it measured screen use across waves – in 2017 by device groups (TV, mobile, computers), in 2020 by adding internet use as an activity, and in 2025 by measuring only online/digital content consumption – a shift that is itself a symptom of the changing media environment.

3.5.5.1. The changing quantity of adolescents' technology use over the past decade

Over the past decade, the sheer quantity and reach of adolescents' technology use has grown steadily, but the more telling change is how much earlier and how much more individualized this use has become. At the start of the period, the Hungarian EU Kids Online data placed the onset of internet use at around age 9, with more than half of 15–16-year-olds already going online in their own rooms, an early sign of highly individualized media use (Ságvári, 2012). Since then, personal-device ownership has moved from widespread to near-universal among older adolescents, while the frontier of change has shifted to ever-younger cohorts. This is clearest in the age of first owning a smartphone: in 2017, only 14% of children had their own mobile by age 7–8; this rose to 24% by 2020 and to 29% by 2025, and ownership is now

creeping into preschool ages (NMHH, 2025). Across almost all personal-use devices, ownership increased sharply between 2017–2020 and 2020–2025, even as traditional media eroded, television and radio use declined, and computer use stagnated as online substitutes took over (NMHH, 2025).

The volume of daily use has grown in parallel and become harder to bound. Passive-tracking evidence from the DigiKid study puts average daily smartphone screen time at roughly four hours (about 234 minutes) on active days, with activity spread across the day and even spilling into the early morning for some children (Ságvári & Kollányi, 2023). Media multitasking has become increasingly common with age, and – as noted above – even the measurement of “screen time” had to be redefined between 2017 and 2025 as device-bound use gave way to continuous, online content consumption (NMHH, 2025). At the same time, quantitative growth has not simply displaced family life: shared offline rituals remain stable, with digital tools increasingly supplementing rather than replacing them (Bernhardt, 2025).

3.5.5.2. The changing content of adolescents’ technology use over the past decade

Beyond how much, what adolescents do online has changed substantially. The dominant trend is a shift away from play and passive entertainment toward communication, social connection, and social-media-centered use, layered onto a broader migration from traditional to new media. While in 2017 the everyday media diet still leaned on device-bound entertainment, by 2025 traditional formats (print, broadcast radio and television) were receding and new-media formats – online portals, social media, and video-sharing platforms – had moved to the center (NMHH, 2025). Digital media now fulfill sharply different functions across developmental stages: for younger children they remain primarily about play and entertainment, whereas for older adolescents technology increasingly serves communication and social connection (NMHH, 2025).

This content shift is strongly age-graded, and the gradient itself steepened over the decade. In the 2025 data, daily video consumption on platforms such as YouTube and TikTok rises from about a two-thirds of 7–8-year-olds to 70% of 15–16-year-olds, while daily social-media use climbs from around two in ten of the youngest to the large majority of the oldest adolescents (NMHH, 2025). Passive tracking confirms that social media and video-based platforms account for a substantial share of total screen time, peaking in the late afternoon and evening (Ságvári & Kollányi, 2023). Two further content changes mark the most recent period: the platform mix tilted toward short-form video (the rise of TikTok alongside YouTube), and – newly captured

in 2025 – generative AI entered children’s media lives. By 2025, roughly one in three children had already tried an AI tool (about half of secondary-school students), around one in ten used it regularly, mainly for learning, and some had begun following AI-generated influencers (NMHH, 2025), a content category that simply did not exist in the 2017 baseline.

3.5.5.3. The changing parental attitudes over the past decade

Parental attitudes toward children’s technology use have remained anchored in a durable mixture of trust, concern, and pragmatism (Bodó, 2017), but their emphasis and expression have shifted over the decade. The most visible change is in how parents perceive risk: their list of concerns has expanded with each NMHH wave, and worries about online dangers such as cyberbullying, harmful content, deception, and technical threats have grown over time, even if these fears often remain broad and undifferentiated. Yet while in the earlier waves parents were more cautious and self-doubting, by 2025 they were less critical of their own digital competence than before, and they continued to express high overall trust in their children’s ability to use the internet safely, still weighing its benefits above its risks (NMHH, 2025). Attitudes also remain socially stratified: lower parental education is associated with greater child screen time and a stronger emphasis on benefits over risks, embedding digital parenting in broader inequalities (Konok et al., 2020).

These changing attitudes are mirrored in how parents act, with the clearest decade-long trend being a shift from interpersonal to technological regulation. Earlier work found quantitative restriction (screen-time limits) more common than content-based rules, applied more to boys than girls and declining with age (Székely, 2010). More recently, explicit verbal rules have become less common – particularly for older adolescents, as parents judge direct regulation to be less effective with age – and monitoring likewise declines as children mature, with conversational checking (“what are you doing online?”) remaining the most common but least intrusive form (NMHH, 2025). Against this softening of interpersonal control, technical restriction has expanded markedly between 2020 and 2025 – tracking applications and time-management software – signaling a shift from talking-and-watching toward technological solutions (NMHH, 2025). Co-use has stayed comparatively limited throughout (Ságvári, 2012; NMHH, 2025), and risk-focused conversations, though more frequent, remain occasional rather than daily. In short, while in 2017 parental mediation was still primarily interpersonal – rules, supervision, and talk – by 2025 it increasingly runs through devices, even as parents’ underlying trust and their sense of individual responsibility persist. Generative AI adds a new attitudinal fault line specific to the latest wave: children view it positively and use it mainly for learning,

whereas parents are markedly more ambivalent, worried about overreliance and misinformation (NMHH, 2025).

These shifts play out across mediation styles: passive, active-mediating, rule-oriented, and comprehensive “all-rounder” approaches. Their balance changes predictably as children grow older, with passive strategies becoming more common while active mediation and direct regulation recede (NMHH, 2025). This developmental gradient is itself part of the decade-long story, since the softening of interpersonal control with age – and its partial replacement by technical restriction – reshapes the mix of styles parents rely on. Some patterns, however, have proved stable rather than changing: mediation remains socially stratified throughout the period, with higher parental education consistently associated with more comprehensive, multi-strategy mediation and lower education with more passive approaches (NMHH, 2025; Konok et al., 2020). Equally persistent is where parents turn for guidance. Across the waves, families continue to rely mainly on informal sources such as friends, relatives, schools, online forums, and the media, rather than on formal institutional channels, so that even as the tools of digital parenting are modernized, the interpretive resources parents draw on remain largely informal and socially embedded (NMHH, 2025).

The Hungarian evidence suggests that digital parenting has become more demanding less because children spend more time online than because their digital lives now begin earlier, are more individualized and platform-based, and are harder for parents to observe directly. At the same time, parents continue to rely mainly on informal sources of guidance, while institutional support remains fragmented.

4. Research questions and hypotheses

This chapter outlines the research questions, hypotheses, and operationalization of indicators representing the parent, child, and contextual subsystems in Belsky's (1984) ecological model of parenting. It also clarifies how the quantitative and qualitative components of the study contribute to answering the overarching research problem.

Building on Belsky's (1984) model, this dissertation examines how the parent-, child-, and context-related subsystems shape digital parenting practices during adolescence. The central analytical focus is twofold. First, it investigates how the three subsystems function as sources of influence in the domain of digital parenting. Second, it seeks to identify which specific elements within each subsystem shape particular digital parenting practices. In other words, the study does not assume that subsystems operate as homogeneous blocks; rather, it explores how distinct indicators – such as parental gender or education, child age or academic performance, and contextual conditions such as occupational position or work–life balance – are associated with different components of digital parenting. In line with Belsky's (1984) proposition that parenting is directly shaped by forces emanating from the parent, the child, and the societal context – though not necessarily to the same extent – the general expectation guiding the empirical analyses is that all three subsystems play a role in digital parenting, albeit with varying strength and configuration. Within the framework of digital parenting, the dissertation concentrates on three specific practices: monitoring adolescents' technology use, parent–child co-use of digital devices, and parent–child discussions about technology use.

The quantitative component of the research is designed to test whether concrete, operationalized indicators of the parent, child, and contextual subsystems exert statistically demonstrable effects on the likelihood of these digital parenting practices. Through hypothesis testing, it examines whether the probability of monitoring, co-play, and technology-related discussion can be predicted by measurable characteristics of the three subsystems. Complementing this, the qualitative component aims to explore more openly and in greater depth how parents and adolescents interpret and negotiate digital parenting in everyday life. Rather than being limited to predefined indicators, the qualitative inquiry seeks to uncover additional elements within each subsystem that may shape digital parenting practices, to illuminate mechanisms underlying the statistical associations identified in the quantitative analysis, and to provide a more nuanced and context-sensitive understanding of how these subsystems interact. The qualitative component of the research also enables exploration of the fears and opportunities

that parents associate with technology, the digital sphere, and the online world, as well as understanding which experiences and contextual factors have shaped these beliefs and how they inform their digital parenting practices. While quantitative models can capture, within a binary logic, whether certain factors influence specific practices, qualitative data can reveal contradictions and potential bidirectional effects. In this way, the qualitative findings contribute to a more complexity-sensitive interpretation of digital parenting as a socio-ecologically embedded phenomenon.

To examine how the three subsystems operate in the field of digital parenting, the analysis is structured around subsystem-specific research questions. Each sub-question focuses on a distinct ecological domain – parental, child-related, and contextual factors – while maintaining a common analytical framework. This structure allows for a systematic assessment of how individual indicators within each subsystem are associated with monitoring, co-play, and technology-related discussions. The following research questions translate the overarching theoretical framework into empirically testable dimensions.

RQ1: How do parent-related factors shape digital parenting practices?

RQ2: How do child-related factors shape digital parenting practices?

RQ3: How do contextual factors shape digital parenting practices?

The next sections present the hypotheses tested in the quantitative phase of the research. For each subsystem, the operationalized indicators are introduced and linked to theoretically grounded expectations derived from the literature review. These hypotheses specify how and to what extent particular parental, child-related, and contextual characteristics are expected to influence the likelihood of different digital parenting practices. By explicitly articulating these expectations, the subsequent analysis enables a systematic empirical assessment of the socio-ecological model in the context of adolescent digital parenting.

4.1. The role of parent-related factors in digital parenting

Existing empirical findings converge in suggesting that variation in digital parenting practices can be meaningfully traced back to parents' socio-demographic positions, resources, and relational orientations. Building on these patterns, the following hypotheses translate these associations into testable expectations. The following section reviews these parental factors in

the same analytical order in which they are later operationalized in the hypotheses (H1a-d).

Research on digital parenting repeatedly indicates that parental involvement in adolescents' online lives is structured along gendered lines, especially with regard to supervision and control. Empirical studies show that mothers tend to carry the main responsibility for setting rules, overseeing everyday media routines, and applying a wider spectrum of digital parenting practices, including more systematic monitoring of technology use (e.g. Dedkova & Smahel, 2020; Heaselgrave, 2025). Adolescents themselves frequently identify mothers as the primary figures who monitor compliance with rules and track daily online activities (Duek & Moguillansky, 2020). Even in households where digital tasks appear to be shared, overall coordination and accountability often remain concentrated with mothers (Dedkova & Smahel, 2020). The digital parenting literature rarely examines gender differences in shared technology use, but studies on video games suggest that fathers are more likely than mothers to engage in joint gaming with their children. This pattern may reflect fathers' greater gaming experience and their broader tendency to participate in activity-based forms of parent-child interaction, such as playing digital games together (Nikken & Jansz, 2006; Connell et al., 2015). These findings suggest that digital parenting mirrors broader patterns of gendered care work, in which routine oversight and monitoring are disproportionately borne by mothers, whereas interactive and technology-oriented engagement is more frequently associated with fathers – an asymmetry that underpins H1.a.

Parental age represents a second key factor shaping digital parenting. Younger parents are generally more likely to engage in monitoring (Sonck et al., 2013) and are more inclined to participate in certain forms of co-use, particularly shared video gaming (Shin & Huh, 2011). Although correlations between parental age and smartphone or tablet co-use are relatively weak (Connell et al., 2015), younger parents and mothers tend to report higher levels of discussion and co-engagement (Livingstone et al., 2017; Talves & Kalmus, 2015). These patterns may reflect greater familiarity with digital media, smaller generational gaps in media culture, and more confidence in using digital platforms. Conversely, older parents may feel further removed from adolescents' digital worlds, potentially reducing direct involvement. These life-course dynamics underpin H1.b, which assumes a negative association between parental age and engagement in monitoring, co-play, and technology-related discussions.

Higher parental education is associated with a greater likelihood of applying mediation strategies and establishing rules regarding children's internet use (Kutrovátz et al., 2018;

Larrañaga, 2015; Lou et al., 2024; Üstündağ-Alkan et al., 2021). In general, more highly educated parents tend to possess greater digital skills and confidence, which are linked to stronger engagement in supervising and guiding their children's online activities. Evidence concerning educational differences in co-use is mixed. Some studies report higher levels of shared television viewing and video gaming in families with lower parental education, often attributed to higher overall media consumption in these households (Gentile et al., 2012; Rideout et al., 2010; Roberts & Foehr, 2008). Other research, however, finds that educational attainment exerts only weak and medium-specific influences (Connell et al., 2015; Top, 2016). These findings suggest that education is an enabling resource for monitoring and technology-related discussions, providing the empirical basis for H1.c.

Compared to structural factors such as gender, age, or education, far less empirical attention has been devoted to subjective parental quality in relation to digital parenting practices. Although intensive parenting scholarship highlights the moral pressure to meet culturally defined standards of responsible parenting (Willett, 2015; Yerkes et al., 2019), little is known about how parents' own subjective evaluations of their life situation translate into everyday digital practices. Existing findings provide only indirect indications that psychological and relational resources matter. For example, research on parenting style shows that authoritative and autonomy-supportive parenting is positively associated with active mediation, whereas permissive parenting is associated with lower levels of intervention (Zhao et al., 2023). Kutrovátz (2022) finds that subjective parental quality is positively related to active mediation practices, like discussion, particularly among mothers. Similarly, Zhang et al. (2025) demonstrate that parental technoference is associated with adolescents' problematic media use, suggesting that attentional presence and relational quality shape digital outcomes. H1.d therefore moves beyond normative discourse and examines whether subjective parental quality is associated with greater involvement in monitoring, co-play, and discussion.

The literature thus shows that gendered divisions of care work, parental age, educational resources, and parents' psychological and relational capacities structure digital parenting. These factors do more than moderate individual mediation strategies; they set the moral and practical terms on which digital parenting is carried out. The following hypotheses translate these empirically grounded patterns into testable expectations.

H1.a. Mothers are more likely than fathers to monitor children's technology use, while fathers are more likely than mothers to engage in digital co-play with their children.

H1.b. With increasing parental age, the likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use decreases.

H1.c. Parents’ educational attainment is positively associated with the likelihood of parental monitoring and parent–child discussions about technology use.

H1.d. Subjective parental quality is positively associated with the likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use.

4.2. The role of child-related factors in digital parenting

In Belsky’s (1984) process model, child characteristics constitute a central subsystem shaping parenting practices. In the context of digital parenting, research demonstrates that parental monitoring, co-use, and technology-related discussions are calibrated in response to children’s age, gender, and academic trajectory. Parents do not apply uniform strategies across children; rather, digital parenting reflects developmental expectations, perceived competencies, and risk assessments. The following section reviews these child-related factors in the same analytical order in which they are later operationalized in the hypotheses (H2a-c).

Age of the child has been identified as one of the strongest structural predictors of digital parenting practices in prior research. Rather than treating age as a simple background variable, the literature conceptualizes it as an organizing principle shaping expectations about autonomy, competence, and risk. Empirical studies consistently show that parental mediation tends to be more intensive during earlier developmental stages and decreases as children grow older (Lee, 2012; Livingstone et al., 2018; Shin & Lwin, 2017; Sonck et al., 2013; Symons et al., 2017). Although specific risk events – such as online victimization or problematic use – may temporarily increase monitoring (Ghosh et al., 2018; Dedkova & Smahel, 2020), the dominant developmental trend is a decrease in parental involvement with age. Co-use follows a similar pattern: shared digital activities are concentrated in earlier adolescence, when family routines are still more collective and privacy boundaries less rigidly drawn (Livingstone et al., 2018; Nikken & Jansz, 2013; Sonck et al., 2013). Developmental research also emphasizes that children’s autonomy in digital environments increases with age, while risks and opportunities vary across developmental stages, highlighting the need for context-sensitive approaches rather than rigid age thresholds (Livingstone & Sylwander, 2025; Wisniewski et al., 2024). This body of evidence underpins Hypothesis H2.a.

Child gender further differentiates digital parenting practices. Research consistently shows that boys' and girls' digital activities differ, and digital parenting reflects these differences (Livingstone et al., 2014). Findings from the EU Kids Online study, Italian and Indian survey data indicate that boys tend to experience less parental mediation and regulation overall, and boys report perceiving lower levels of parental control than girls (Baldry et al., 2019; Talves & Kalmus, 2015; Priya & Maheswari, 2025). Gendered expectations appear not only in intensity but also in the modality of digital parenting: boys are more often involved in joint gaming activities, whereas girls tend to be subject to comparatively strict supervision (Eastin et al., 2006; Shin & Huh, 2011). These patterns suggest that parental practices are shaped by gendered assumptions about risk, autonomy, and appropriate digital behavior. Monitoring appears more intensive for girls, while co-play – especially gaming – is more commonly associated with boys. Thus, gender does not merely influence the level of involvement but also its modality, providing the empirical basis for Hypothesis H2.b.

Academic achievement can be interpreted as a salient signal within the parent–child relationship, potentially shaping how parents calibrate their involvement in digital practices. Prior findings suggest that parents do not respond uniformly to children's school performance but may adapt their regulatory strategies considering perceived academic responsibility. For example, evidence indicates that higher-achieving adolescents are more likely to encounter structured digital regulations that link device access to homework completion, thereby embedding media use within educational routines. At the same time, lower academic performance has been associated with more frequent parental discussion or shared engagement, possibly reflecting attempts to increase guidance or oversight (Korie, 2025). These patterns imply that grade point average may operate as an evaluative cue through which parents interpret adolescents' self-discipline and future prospects. From a hypothesis-building perspective, if academic success signals responsibility and goal orientation, parents may be more inclined to maintain or reinforce monitoring practices to protect and sustain performance. Accordingly, H2.c tests whether a higher GPA is positively associated with the likelihood of parental monitoring.

Overall, the literature shows that child-related factors — particularly age, gender, and academic performance — influence how intensively parents engage in digital parenting and which practices they rely on. These characteristics interact with parental perceptions of competence, vulnerability, and developmental readiness, producing differentiated patterns of monitoring, co-play, and discussion across families. By systematically testing these associations, the present

study extends prior research by examining how child-related factors structure digital parenting within the broader socio-ecological framework.

H2.a. As children grow older, the likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use decreases.

H2.b. Parents are less likely to monitor boys’ technology use and more likely to engage in digital co-play with them than with girls.

H2.c. Children’s end-of-year grade point average is positively associated with the likelihood of parental monitoring.

4.3. The role of contextual factors in digital parenting

Beyond parental and child characteristics, digital parenting must be situated within families’ structural positions and everyday life constraints. Rather than treating context as a background condition, this study conceptualizes it as a subsystem that shapes both the feasibility and the meaning of digital parenting practices. The following section reviews these contextual factors in the same analytical order in which they are later operationalized in the hypotheses (H3a-c).

Previous research suggests that the number of children in a family may influence parental capacity to supervise and engage in digital mediation. Livingstone et al. (2015) argue that having multiple children can dilute parental oversight due to divided attention and limited time resources, while Adigwe (2021) and Lou et al. (2024) similarly suggest that larger families may experience reduced levels of control. The logic underlying this argument is that monitoring, co-play, and discussion require temporal and emotional investment, which may be stretched thin when parents must coordinate multiple children’s needs simultaneously. However, empirical findings are not uniform. While some research suggests that larger families may dilute parental oversight due to divided attention (Livingstone et al., 2015; Adigwe, 2021), survey evidence from the Netherlands shows that parents in larger families may, in fact, apply restrictive mediation more frequently (Sonck et al., 2013), indicating that family size can shape mediation practices in different ways. Despite these inconsistencies, the literature indicates that family size may function as a structural constraint affecting parental availability and oversight capacity, providing the basis for H3.a.

Occupational position represents a distinct contextual factor that, while related to socioeconomic status, captures parents’ location within the labor market hierarchy and the

associated work culture, autonomy, and social environment. Unlike SES, which aggregates income, education, and material resources, occupational position reflects differences in everyday professional contexts and work-related experiences. White-collar and entrepreneurial roles are typically linked to greater autonomy, higher levels of cultural capital, and more digitally intensive work environments than many blue-collar positions. Research shows that structural inequalities shape digital parenting both directly and indirectly: middle-class parents often frame children's technology use in terms of skill development and future competitiveness (Livingstone & Blum-Ross, 2020), while higher levels of economic, cultural, and digital capital are associated with more structured forms of parental engagement and mediation (Addi-Raccah, 2024; Zhao et al., 2023). Although occupational position is not identical to SES, it can function as an indicator of contextual resources and professional environments that influence parents' orientations toward children's technology use. Parents in white-collar or entrepreneurial roles may therefore have greater opportunities and incentives to engage in monitoring and discussions about appropriate and future-oriented use of technology. Accordingly, H3.b examines whether occupational position is associated with digital parenting practices.

A third contextual dimension concerns work-life balance and perceived strain. According to Belsky's (1984) socio-ecological model, parenting practices are shaped by the psychological and temporal resources available to parents, which may be constrained by contextual stressors such as work demands and time pressure. Digital mediation practices are similarly embedded in broader relational and contextual environments rather than determined solely by individual parental preferences (Dedkova & Smahel, 2020; Livingstone & Blum-Ross, 2020). Since practices such as monitoring, co-use, and technology-related discussions require time, attentional presence, and emotional engagement, work-life strain may reduce parents' capacity to sustain such involvement. Empirical evidence further suggests that contextual stress can weaken the link between parents' beliefs and their actual mediation practices: under higher parenting stress, parents are less able to regulate children's media use in accordance with their own attitudes toward screen media (Griffith, 2023). Conversely, greater contextual support and lower perceived overload may increase the likelihood of monitoring and dialogical digital parenting practices. This reasoning informs H3.c.

According to the literature, digital parenting is embedded in structural and relational contexts that extend beyond individual preferences or competencies. The number of children in the household, occupational position, and work-related constraints interact to shape parents' available resources, interpretive frameworks, and practical capacity to engage in monitoring,

co-use, and discussion. By examining these contextual dimensions separately, the present study contributes to a more differentiated understanding of how macro- and meso-level conditions structure everyday digital parenting practices.

H3.a. The likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use is lower in families with multiple children than in families with only one child.

H3.b. Parents with white-collar or entrepreneurial occupations are more likely to monitor their children’s technology use and to discuss appropriate technology use with them than parents with blue-collar occupations.

H3.c. A higher level of support in the contextual subsystem – better work–life balance and lower perceived overload – is associated with a higher likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use.

time” research was conducted using an explanatory sequential mixed-methods design, in which the interview guide was developed based on the results of a rapid analysis of the quantitative data.

A defining feature of this design is its temporal structure. The empirical material consists of three cross-sectional components collected at intervals spanning roughly a decade (the 2017 survey, the 2019 interviews, and the 2025–2026 focus groups), a period in which the digital environment of adolescence changed substantially, including the mainstreaming of short-form video platforms such as TikTok, the COVID-19 pandemic, and the spread of widely available generative AI. These components do not constitute comparable waves of a single instrument and therefore do not permit methodologically robust comparison over time; yet they are analytically connected rather than independent. Following the explanatory sequential logic of the original project, the associations identified in the 2017 survey framed the qualitative analysis that followed: the interviews and focus groups set out to uncover the reasons behind these patterns and their practical enactment in everyday family life, as expressed in the contexts of 2019 and of the present. The survey thus supplies population-level patterns, while the qualitative components illuminate the mechanisms behind them at two later moments. Rather than a formal comparison, the design offers a set of snapshots from three periods, held together by a shared analytical framework.

In this dissertation, the quantitative secondary analysis serves a clearly defined purpose: testing hypotheses derived from Belsky’s (1984) socio-ecological model. It allows for the examination of whether specific, operationalized indicators of the parental, child, and contextual subsystems are statistically associated with the likelihood of particular digital parenting practices. Thus, the quantitative phase establishes empirically grounded associations between the indicators of Belsky’s (1984) subsystems and digital parenting practices at the population level.

The first qualitative component builds on the original in-depth interviews conducted as part of the “Race against time” project. These interviews provide an opportunity to explore how parents articulate and justify their digital parenting practices in their own words. Importantly, the interview setting allows parents to introduce, without external prompting or strong thematic direction, the factors they themselves consider relevant in shaping their digital parenting. The analysis, therefore, focuses on identifying which parental, child-related, and contextual elements are spontaneously woven into their reasoning. This contributes to a more nuanced understanding of subsystem factors as both measurable variables and lived, interpreted realities

embedded in everyday family life.

The dissertation extends the original explanatory sequential design by incorporating a second qualitative step: focus group interviews conducted specifically for this research. These were carried out after the interviews from the “Race against time” project had been analyzed using Belsky’s (1984) model, and the insights from this interview analysis were incorporated into the focus group discussion guide. The focus group discussions were conducted in December 2025 and January 2026. This additional phase serves multiple purposes. First, the focus groups are more explicitly centered on technology use and digital parenting, enabling a deeper and more targeted exploration of the topic. Second, unlike the original interviews as part of the “Race against time” research, the group setting allows observation of collective meaning-making processes, peer reactions, and patterns of agreement or disagreement. With moderate thematic guidance, parents reflect together on what they perceive as the most important determinants of their digital parenting practices. This method highlights the issues around which parents most readily empathize, as well as those that generate divergent interpretations or tensions. Third, the focus group discussions provide an opportunity to address social and technological transformations that have occurred since the “Race against time” data collection, particularly the COVID-19 pandemic and the rapid expansion of artificial intelligence in everyday life. Both developments could have significantly influenced digital environments, educational practices, and parental expectations. By explicitly reflecting on these changes, the focus groups help contextualize the secondary data and assess the contemporary relevance of earlier findings.

The three methodological components operate at different analytical levels. The quantitative analysis identifies statistically significant patterns that are generalizable to Hungarian parents of adolescents aged 12–16. The individual interviews illuminate how subsystem factors are embedded in parents’ own narratives and justificatory frameworks. The focus groups, through guided collective reflection, reveal how parents negotiate and prioritize the factors shaping their digital parenting practices within a collective discussion setting and in light of recent societal transformations. Combined, these methods allow for both the testing of theoretically grounded hypotheses and a deeper, context-sensitive interpretation of digital parenting as a dynamic socio-ecological phenomenon.

5.2. Quantitative research

5.2.1. Data collection and sample

The quantitative data collection was conducted as part of the “Race against time” (NKFIH K120089) project. The target group consisted of Hungarian adults younger than 65 with at least one child aged 12–16. (One parent and one child per household were involved; in the case of several children aged 12–16, the respondent was selected randomly.) Data collection was conducted by Ipsos using computer-assisted personal interviewing (CAPI) in autumn 2017. The questionnaire survey was carried out with a representative sample by region, settlement type, and the child's age group (12–13-year-olds and 14–16-year-olds). During the survey, an additional guideline was that in 40 percent of the involved households, the father should answer the parenting questionnaire. A total of 1,000 parent–child pairs participated in the survey. In the current study, only parental answers are analyzed. These data should be read in their historical context. In autumn 2017, the digital environment of Hungarian adolescents differed in important respects from the present: smartphone ownership among the youngest children was still far from universal (NMHH, 2025), short-form video platforms such as TikTok had not yet achieved mass adoption, the COVID-19 shift to home-based schooling was three years away, and widely accessible generative AI did not yet exist. The associations reported in the results should therefore be understood as characterizing digital parenting at a specific point in its development.

5.2.2. Quantitative data analysis method and measures

Binary logistic regression models were fitted to the data, and average marginal effects were computed using the margins package in R. Average marginal effects (AME) are reported because they allow results to be interpreted directly on the probability scale, which facilitates substantive interpretation. Average marginal effects express how predicted probabilities change with respect to the explanatory variables, making the magnitude of associations easier to interpret. Marginal effects are calculated from predicted probabilities from the logistic regression model, accounting for the values of other variables in the model (Bartus, 2003). All dependent and several explanatory variables were dichotomized to ensure sufficient observations in each category and to facilitate the interpretation of results. Although dichotomization reduces variability in the original scale, it allows the models to capture clear distinctions between the presence and absence of the examined practices while maintaining sufficient cell sizes for robust estimation. Missing data were handled through listwise deletion,

whereby cases with missing values on any variables included in the regression models were excluded from the analysis. To assess potential multicollinearity among the explanatory variables, variance inflation factors (VIFs) were calculated; the results indicated no problematic multicollinearity. Model fit was assessed using pseudo R^2 statistics derived from the logistic regression models, which provide an approximate indication of the explanatory power of the models and enable comparison across model specifications. The regression models therefore identify statistical associations rather than causal relationships. In this respect the quantitative analysis is exploratory in intent: it asks whether indicators associated with Belsky's three subsystems are related to digital parenting practices at all, offering a first, population-level test of the framework's relevance to this domain. It does not model interactions among the subsystems; the interactional dynamics that Belsky's framework emphasizes are examined qualitatively here and left to future confirmatory work with purpose-built measures.

5.2.2.1. Dependent variable

The three binary logistic regression models were estimated using three different dependent variables. The binary dependent variables were constructed based on responses to the following survey questions: "How closely do you monitor your child's technology use?"; "How often do you engage in the following activities together with your child? – Playing together on a digital device?" and "How often do you talk with your child about what you consider to be appropriate use of digital devices?".

In the case of the monitoring variable ("How closely do you monitor your child's technology use?"), the answer categories "may or may not follow", "follow rather not", and "do not follow at all" were combined into the reference category "do not follow closely", and the answer categories "very closely" and "quite closely" were combined into the category "follow closely". This means the monitoring outcome variable is binary: 0 indicates no close monitoring, and 1 indicates close monitoring. The monitoring indicator captures perceived parental attentiveness to children's technology use rather than specific monitoring techniques.

In the case of the parent-child co-play variable ("How often do you engage in the following activities together with your child? – Playing together on a digital device?"), the answer category "never" is the reference category, and the answer categories "monthly or less frequent", "several times a month", "once a week", "several times a week", and "daily" were combined into the category "co-play occurs". The aim of this recoding was to distinguish between families in which co-play occurs at least occasionally and those in which it does not

occur at all (which accounts for more than 40% of the sample). This means the co-play outcome variable is binary: 0 indicates no co-play, and 1 indicates co-play with some frequency.

In the case of the technology-related parent–child discussion variable (“How often do you talk with your child about what you consider to be appropriate use of digital devices?”), the answer categories “never” and “very rarely” were combined into the reference category “no technology-related parent–child discussion”, and the answer categories “occasionally” and “regularly” were combined into the category “technology-related parent–child discussion occurs”. This means the discussion outcome variable is binary: 0 indicates no discussion, and 1 indicates discussion.

5.2.2.2. Explanatory variables

Because the survey was conducted within the “Race against time” project and was not originally designed to operationalize Belsky’s (1984) model, the indicators used here are best understood as available approximations of the model’s subsystems rather than purpose-built measures of its constructs. Several variables map directly onto the model – parents’ and children’s ages and gender, education, and family structure – while others serve as proxies. Subjective parental quality stands in for the parental psychological and self-evaluative dimension; children’s academic performance serves as an observable behavioral signal to which parents respond, rather than a measure of temperament; and occupation, work–life balance, and perceived overload index the contextual sources of stress and support that Belsky’s framework foregrounds. Two elements of the contextual subsystem that Belsky treats as important, the quality of the partner relationship and the support available through social networks, are not captured in the survey and are examined instead through the qualitative material. The models test whether theoretically motivated indicators of each subsystem are associated with digital parenting practices, not whether the full constructs are measured without remainder.

The independent variables were included in the model in three steps, divided according to Belsky’s (1984) three subsystems: first, the parent subsystem variables were entered; then those of the child subsystem; and finally those of the contextual subsystem.

Parent subsystem: The current research, focusing on the parent subsystem, examines gender, age, education level, and subjective parental quality (parents’ self-evaluation). The gender variable is binary, with categories “male” and “female”. The age variable is the exact age of the answering parent at the time of the data collection. Categories of the education level variable

are “8th grade of primary school”, “vocational school”, “high school graduation”, and “higher education”. The education level variable is entered into the models as a categorical variable, with “8th grade of primary school” as the reference category. The parental quality index captures parents’ self-evaluation of their parenting. The index shows the average value of the following ten items: “I am there when I am sick”, “I am raising him/her according to good values”, “I make him/her feel that he/she is important to me and I love him/her”, “I am there at important events in his/her life”, “I accept him/her as he/she is”, “I encourage him/her to learn and enjoy learning”, “I take an interest in what is happening with him/her at school”, “he/she can turn to me when he/she is angry”, “I take time to talk to him/her”, “I know what’s really going on in his/her life”. Parents evaluated themselves during data collection on a five-point scale for the mentioned aspects.

Child subsystem: According to the child subsystem, the current research focuses on the child’s age, gender, and end-of-year grade point average (GPA). The gender variable is binary, with categories “boy” and “girl”. The age variable is the child’s exact age at the time of data collection. The GPA variable was originally measured on a five-point scale and was subsequently recoded into a binary indicator distinguishing between lower (“pass”, “average”) and higher (“good”, “very good”, “outstanding”) academic performance. The GPA variable was dichotomized to distinguish between lower and higher academic performance.

Contextual subsystem: In the contextual subsystem, the current research focuses on the number of minors in the household, parents’ occupation type, subjective work–life balance level, and perceived overload. The number of minors in the household was recoded as a binary variable distinguishing households with one minor from those with more than one minor. Parental occupation was measured using two categories: “blue-collar worker” and “white-collar worker or entrepreneur.” The work–life balance variable was originally measured on a four-point scale and was subsequently recoded into a binary indicator, collapsing the categories “never” and “sometimes in balance, sometimes not” into one group, and “more in balance” and “absolutely in balance” into another. Similarly, the perceived overload variable was originally measured on a four-point scale and was recoded into a binary indicator distinguishing between parents who reported “never or rarely” or “sometimes” experiencing overload and those who reported “often” or “very often” experiencing overload.

5.2.2.3. Control variables

To see the effects of the indicators of the parent, child, and contextual subsystems more clearly,

the fourth model also controls for children's and parents' screen time. For the parents, it is the time (in minutes) spent in front of screens outside working hours. In both cases the values were estimated by the parents. These variables therefore represent subjective estimates rather than precise time-use measurements.

5.3. Qualitative research

5.3.1. Semi-structured one-on-one interviews

5.3.1.1. Data collection and sample

The interview-based qualitative data collection was conducted as part of the “Race against time” (NKFIH K120089) research project between January and June 2019. This phase followed a rapid analysis of the quantitative survey results and was designed to interpret and further elaborate the emerging findings. The study consisted of semi-structured interviews with 29 parent–child dyads. A semi-structured interview guide was used to ensure comparability across interviews while still allowing participants to elaborate freely on their experiences. The target population included Hungarian adults younger than 65 who had at least one child aged 12–16, as well as their adolescent children in the same age group. Participants were initially recruited through schools and subsequently through snowball sampling. The aim of the qualitative sample was not statistical representativeness but analytical diversity.

All interviews were conducted face-to-face by the same researcher. Interviews with parents averaged 45 minutes, while interviews with children averaged about 25 minutes. Prior to participation, all respondents received information about the aims of the research and provided informed consent. The research was conducted in accordance with the ethical guidelines of Corvinus University of Budapest. With participants' consent, the interviews were audio-recorded and subsequently transcribed verbatim for analysis.

At the time of the interviews, twenty participating families lived in Budapest, and the remaining families lived in the surrounding metropolitan area. This analysis draws exclusively on interviews conducted with parents. Interviews with adolescents were conducted as part of the original project but are not analyzed in the present dissertation. A total of 29 parents participated in the study, including 22 mothers and 7 fathers, with a mean age of 46 years. Most participants evaluated their financial situation as relatively good, and white-collar workers were overrepresented in the sample. The underrepresentation of lower socioeconomic status parents may partly reflect difficulties in reaching this group and partly the metropolitan and suburban

focus of the sampling strategy.

5.3.1.2. *Qualitative data analysis method*

The analysis was based on verbatim interview transcripts. Data analysis followed the methodological principles of theory-driven thematic analysis (Braun & Clarke, 2006). The interviews conducted within the “Race against time” project addressed a broader set of topics related to family life and time use; therefore, this analysis focused specifically on segments related to children’s technology use and digital parenting practices. Although another researcher conducted the interviews in the original project, the author of the dissertation listened to the full set of audio recordings and worked with the verbatim transcripts. This step helped ensure familiarity with the tone, context, and nuances of the interviews and supported a more informed interpretation during the coding process, which the author of the dissertation conducted.

The analytical process proceeded in several stages. First, the transcripts were read repeatedly to become familiar with the parts of the interviews that addressed technology use within the family. In this phase, segments referring to children’s technology use, parental responses to it, and related family interactions were identified and extracted for further analysis. Second, within these technology-related segments, references to digital parenting practices were identified. These included parental monitoring of technology use, parent–child co-use of digital devices, and conversations about technology use. In addition to identifying practices themselves, the analysis also examined parents’ interpretations, perceived benefits and risks, dilemmas, and uncertainties related to these practices. Third, the analysis examined which parent-related, child-related, and contextual factors parents themselves linked to these practices in their narratives. Since the original interviews were not designed around Belsky’s (1984) socio-ecological framework, the analysis focused on identifying which elements of the parental, child, and contextual subsystems appeared spontaneously in parents’ explanations and justifications of their digital parenting practices.

The coding strategy was therefore theory-informed but empirically grounded: Belsky’s (1984) framework provided the analytical structure, while the identification of specific factors relied on parents’ own narratives. The main coding categories included the amount and mode of technology use, parental monitoring, co-use of technology, discussions about technology use, and factors related to the parental, child, and contextual subsystems. The analytical process was iterative and data-sensitive throughout. The coding and organization of interview segments were carried out using a structured spreadsheet (Microsoft Excel). Coded excerpts were

arranged in a thematic matrix, which enabled systematic comparison of thematic patterns across interviews and socio-demographic characteristics. Given the moderate size of the dataset, this approach provided sufficient transparency and flexibility for organizing and reviewing the qualitative material. Illustrative quotations were selected to represent recurring themes identified during the analysis.

The findings are based on a non-representative sample and reflect parents' perspectives. Accordingly, the results aim to provide analytical insight into how parents interpret and justify their digital parenting practices rather than statistical generalization. To enhance the credibility of the analysis, thematic interpretations were continuously checked against the original interview material, and illustrative quotations were used to support the identification of patterns. These procedures aimed to ensure that the findings remain closely anchored in participants' accounts while providing analytically meaningful interpretations of digital parenting practices.

5.3.2. Focus group interviews

5.3.2.1. Data collection and sample

Parents raising at least one child aged 12–16 participated in the focus group discussions. Eligibility criteria required that participants hold at least a secondary school diploma and reside in Hungary, Budapest, or within approximately a 30-kilometer radius of Budapest. No formal quotas were set regarding family structure. However, during recruitment, deliberate efforts were made to include diverse family forms: single parents, parents living with a spouse or partner, and families with different structural arrangements. The sample included both parents raising one child and those raising multiple children. Similarly, no predefined quotas were applied regarding the type of school the children attended. Nonetheless, the recruitment process sought to ensure that, alongside parents whose children attended state schools, parents of children enrolled in private and church-run institutions were also represented. This approach allowed experiences shaped by different institutional environments to emerge in the analysis.

Participants were recruited through parent-focused Facebook groups affiliated with districts of Budapest and surrounding suburban municipalities, including groups for mothers, fathers, and mixed-parent communities. These groups provided access to the target population – parents of 12–16-year-olds – and reached a social milieu relevant to the study. Expressions of interest and scheduling were managed via a Google Form. Prospective participants indicated their willingness to participate and selected suitable time slots. This procedure facilitated efficient group formation and flexible scheduling. Participants received an honorarium of 5,000 HUF in

recognition of their contribution and to compensate for their time.

All discussions were moderated by the author of the dissertation. Each focus group was conducted online via Microsoft Teams. With participants' prior informed consent, both video and audio recordings were made. The online format facilitated participation by parents in different locations and supported flexible scheduling, while the video component enabled observation of interactional dynamics and nonverbal responses. A structured discussion guide was used in all sessions. Within the broader theme of digital parenting, the guide focused primarily on three practices: monitoring children's technology use; parent-child co-use of digital devices (including co-viewing and co-playing); and parent-child conversations about technology use. Questions were formulated in an open-ended manner, allowing participants to elaborate on their experiences, dilemmas, and interpretations in depth, and to respond to one another's contributions. Each focus group lasted approximately 90 minutes, which proved sufficient to explore the main topics without overburdening participants.

In total, four focus group discussions were conducted. Two groups consisted of six participants each, one group included seven participants, and one group comprised four participants. These group sizes allowed for in-depth individual contributions while also enabling interaction and the articulation of differing viewpoints. In total, 23 parents participated: 17 mothers and 6 fathers. Participants ranged in age from 40 to 58 at the time of the interviews, with a mean age of 48 years. Socio-demographic background data were collected separately via a Google Form; complete background information was available for 21 of the 23 participants, as two did not complete this part of the questionnaire. Regarding educational background, one participant had completed secondary education; one had obtained a post-secondary vocational qualification; six held a college or university BA/BSc degree; ten held an MA/MSc degree; and three held a doctoral degree. Fifteen participants were employed at the time of data collection (the majority full-time), four were self-employed, and the remaining two were not in paid employment (a student and a jobseeker). Five participants worked entirely from home, eleven partly, and five exclusively on-site. At the time of data collection, the focal child attended a state school in 10 cases, a church-run school in 10 cases, and a private school in 3 cases. Ten participants were raising one minor child; six were raising two; five were raising three; and two were raising four. Sixteen of the twenty-three participants described themselves as experiencing overload. This approach minimized interruptions during the focus groups and ensured that the sessions could concentrate fully on participants' experiences and interpretations.

5.3.2.2. *Qualitative data analysis method*

The four focus groups were analyzed using a theory-driven thematic analysis. The analytical framework was informed by Jay Belsky's (1984) socio-ecological model of parenting. The aim of the analysis was not merely to identify recurring themes, but to examine how different practices of digital parenting – monitoring children's technology use, parent–child co-use (including co-viewing and co-playing), and conversations about technology – are embedded in and shaped by parental, child-related, and contextual subsystems, and how these dimensions intersect within parents' narratives. The analytical procedure followed the logic of thematic analysis as outlined by Braun and Clarke (2006), though it was not conducted purely inductively. Coding was theory-driven insofar as it was structured around predefined conceptual categories derived from Belsky's model. At the same time, the analysis remained open to emergent subcodes and interpretative patterns arising from the data, particularly regarding parents' dilemmas, emotional responses, and reflexive accounts.

As a first step, the full transcripts of the focus group discussions were read multiple times to develop a comprehensive understanding of their content, tone, and interactional dynamics. An initial coding framework was then developed along two intersecting dimensions. The first dimension reflected Belsky's (1984) socio-ecological subsystems: parental, child-related, and contextual factors. These primary coding categories ensured theoretical coherence throughout the analytical process. The second dimension focused on digital parenting practices: monitoring, parent–child co-use of digital technologies, and conversations about technology use. Within these main coding categories, further subcodes were developed through detailed engagement with the data. These subcodes captured recurring themes such as parents' technological competence, their understandings of “good parenting,” children's autonomy claims, age-specific characteristics and psychological traits, the role of schools, and the impact of workload, time scarcity, and work–life balance. The development of subcodes was iterative. The coding structure was continuously refined during the analytical process, with categories merged or specified more precisely when warranted by the empirical material. A key methodological decision was to code text segments primarily at the most specific, lowest-level subcode. This enabled fine-grained analysis while maintaining the hierarchical structure necessary to connect these subcodes back to broader, theoretically relevant categories. In total, the coding scheme comprised four hierarchical levels: five top-level codes, twenty-three coding groups at the second level, 101 subcodes at the third level, and an additional fifteen subcodes at a fourth level. The full codebook is included in the appendices.

All stages of the analysis were conducted using NVivo 15 qualitative data analysis software. The software served to organize the material, enhance transparency, and ensure analytic traceability; it did not replace interpretative work. NVivo facilitated the systematic comparison of coded segments across subsystems and practices. Matrix queries and frequency reports were generated to explore which themes were more salient in specific focus groups and which codes most frequently co-occurred. Throughout the thematic analysis, attention was paid not only to whether factors appeared in parents' narratives, but also to how they were articulated: which dilemmas, emotional responses, and normative expectations accompanied them. Emphasis was placed on how parents reflected on their own roles, the uncertainty surrounding their decisions, and how digital technology becomes a terrain for enacting and questioning "good parenting." Given the interactive nature of focus groups, the analysis also accounted for participants' responses to one another. Agreements, disagreements, and mutually reinforcing narratives were interpreted not merely as individual opinions but as instances of collective meaning-making. Interactional dynamics were coded as a separate analytical dimension, not being subsumed under thematic codes.

Overall, the theory-driven thematic analysis conducted using NVivo enabled a structured yet empirically sensitive examination of digital parenting practices. It provided a basis for drawing grounded conclusions about the role of socio-ecological subsystems in shaping the everyday digital practices of families raising adolescent children.

6. Results

6.1. Quantitative data analysis

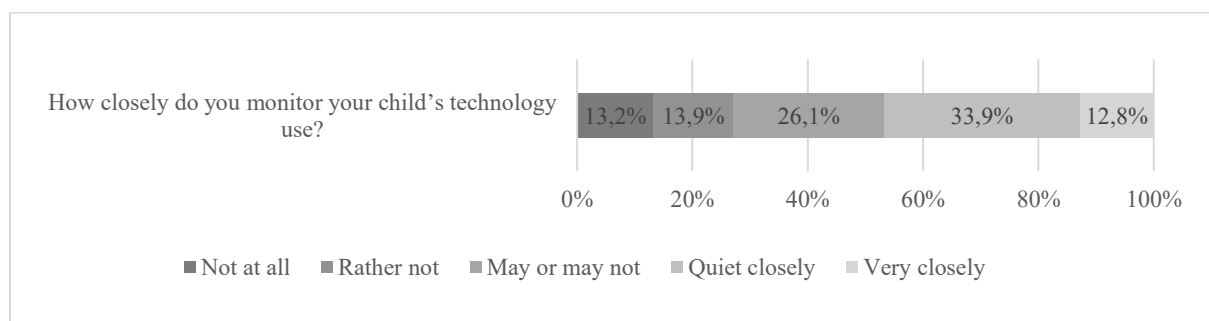
The three dependent variables examined in the following analyses – parental monitoring, parent–child co-play on digital devices, and parent–child conversations about technology use – capture distinct dimensions of digital parenting. While monitoring reflects control-oriented practices, co-play and conversations represent more relational and interaction-based forms of engagement. Examining these outcomes in parallel allows for a differentiated understanding of how parent-, child-, and contextual factors shape the degree and form of parental involvement in adolescents’ digital lives.

6.1.1. Descriptive statistics

In the binary logistic regression analyses, three different dependent variables were examined using the same set of explanatory and control variables. The three dependent variables were: the occurrence of parental monitoring of adolescents’ technology use, the occurrence of parent–child co-play on a digital device, and the occurrence of parent–child conversations about what is considered appropriate technology use. In the subsequent analyses, the dependent variables are used as dummy variables; however, the figures below (Figure 3, Figure 4, Figure 5) illustrate the distribution of responses for the original variables.

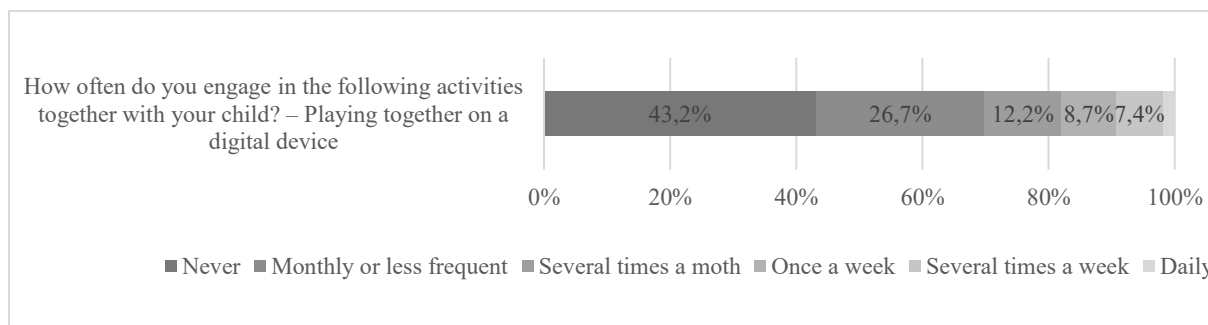
According to the results (and based on parents’ responses), 53.3% rather do not follow / do not follow closely, and 46.73% of the parents follow their child’s use of technology quite closely or very closely (**Hiba! A hivatkozási forrás nem található.**).

3. Figure Q: “How closely do you monitor your child’s technology use?” – relative frequency of responses (N=1000; %)



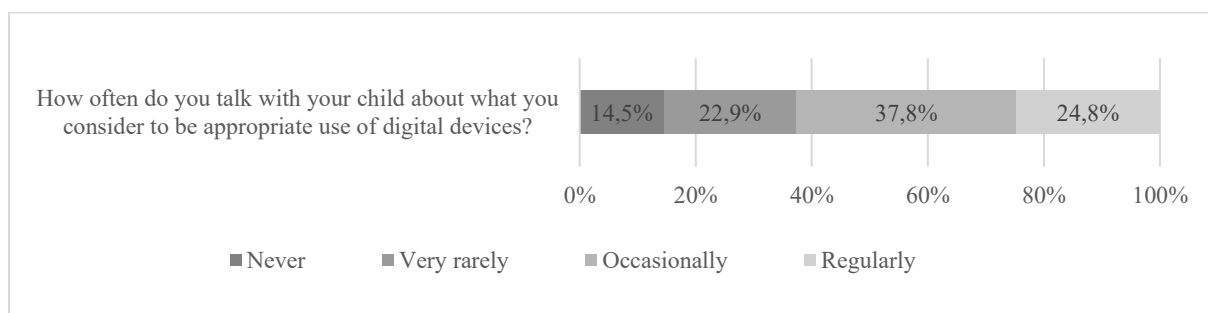
Based on parents’ responses, 43.2% reported that they never engage in co-play with their adolescent child on a digital device, while 56.8% reported that this shared activity occurs with some frequency (Figure 4).

4. Figure Q: “How often do you engage in the following activities together with your child? – Playing together on a digital device?” – relative frequency of responses (N=1000; %)



In addition, 37.4% of parents reported never or only very rarely discussing appropriate technology use with their adolescent child, whereas 62.6% reported discussing this topic with their child occasionally or regularly (Figure 5). The descriptive statistics suggest that relational forms of digital parenting are somewhat more widespread than monitoring, which may be more control-oriented. While fewer than half of parents report close monitoring of adolescents’ technology use, discussions about appropriate technology use occur more frequently, and a majority of respondents report digital co-play. These patterns indicate that digital parenting involves both supervisory and interaction-based practices within families.

5. Figure Q: “How often do you talk with your child about what you consider to be appropriate use of digital devices?” – relative frequency of responses (N=1000; %)



The explanatory variables represent indicators associated with the parental, child, and contextual subsystems of Belsky’s socio-ecological model. The descriptive statistics therefore provide an overview of the main characteristics of the sample before examining how these factors are statistically associated with digital parenting practices in the regression analyses.

In the logistic regression models, parents’ and children’s ages, and subjective parental quality were included as continuous explanatory variables. Parents’ ages ranged from 25 to 63 years (Mean = 42, Std. Dev. = 5.55). Children’s ages ranged from 12 to 16 years (Mean = 14, Std. Dev. = 1.5). The subjective parental quality index is calculated as the unweighted average of

10 items rated on a 5-point scale. The figure below (Figure 6) presents the statements parents used to evaluate their parenting, along with the average responses to each item (on a scale from 1 to 5, where 5 indicates complete agreement). The subjective parental quality index (averaged the 10 items) ranged from 1.8 to 5, with a mean of 4.6 and a standard deviation of 0.5.

6. Figure Q: “How would you rate yourself, as a parent, in relation to your child in the following aspects?” – mean values of responses on five-point scales

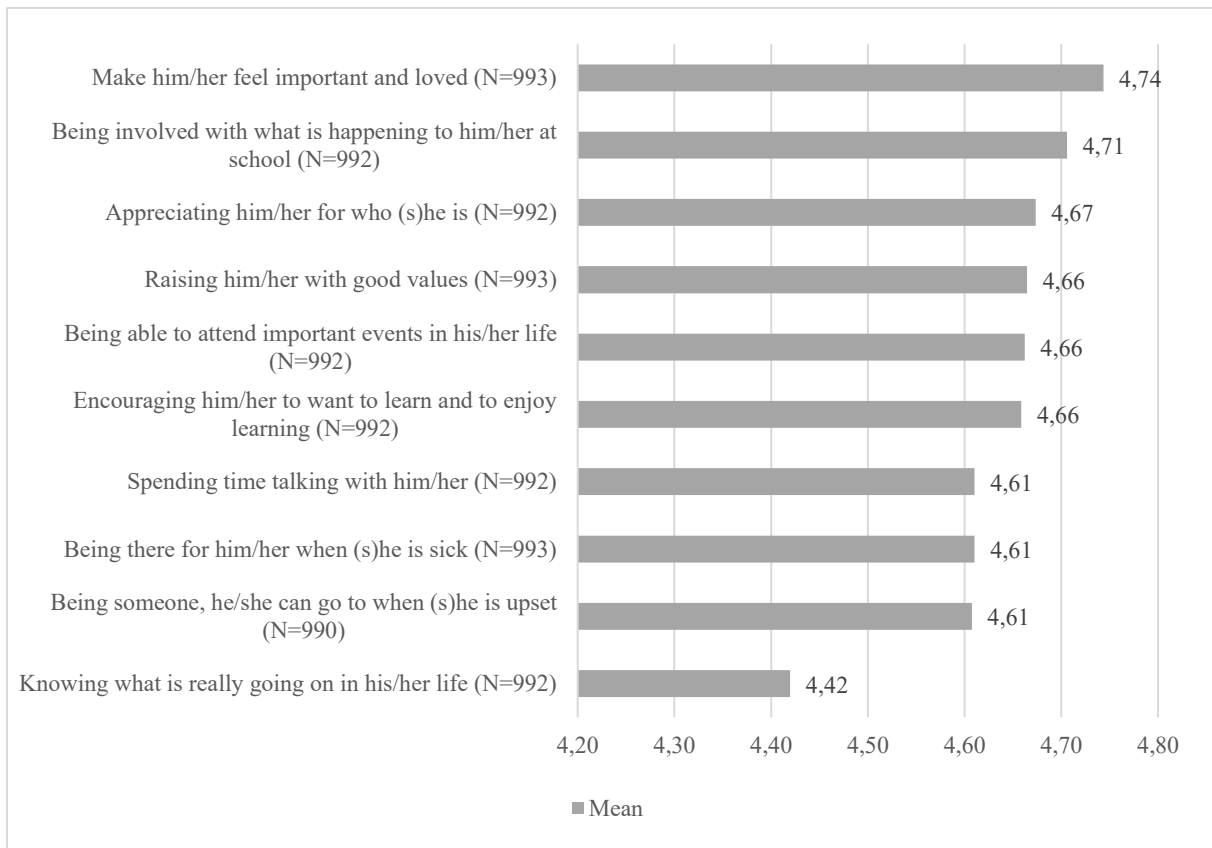


Table 1 summarizes the frequency distributions for all variables included in the models as dependent or explanatory variables. For descriptive purposes, the table also presents categorized versions of the continuous variables.

1. Table Descriptive statistics

Dependent variables					
Monitoring the child’s digital activity		“Not at all” to “may or may not”	“Quite closely” or “very closely”		
	Total (N=1000)	53.3%	46.7%		
Parent–child co-play on digital devices		“Never”	“Monthly or less frequent” to “daily”		
	Total (N=1000)	43.2%	56.8%		
Parent–child discussion about technology use		“Never” or “very rarely”	“occasionally” or “regularly”		
	Total (N=1000)	37.4%	62.6%		
Explanatory variables					
Gender of parent		Male	Female		
	Total (N=1000)	43%	57%		
Age of parent		<= 35	36-45	46-55	56+
	Total (N=999)	9.5%	66.4%	21.6%	2.5%
Education level of parent		8 grade of primary school	Vocational school	High school graduation	Higher education
	Total (N=999)	9.3%	36.5%	38.1%	16.1%
Subjective parental quality		1-4	4,01-4,7	4,71-5	
	Total (N=993)	13.2%	29.2%	57.6%	
Gender of child		Boy	Girl		
	Total (N=1000)	41%	59%		
Age of child		12–13	14–15	16	
	Total	36%	39%	25%	

<i>(N=1000)</i>		
End-of-year grade point average (GPA)	“Pass” or “average”	“Good” to “outstanding”
	<i>Total</i> <i>(N=995)</i>	21.3% 78.7%
Minors in the household	Only the interviewed child	Other minor(s) as well
	<i>Total</i> <i>(N=1000)</i>	52% 48%
Type of occupation of the parent	Blue-collar worker	White-collar or entrepreneur
	<i>Total</i> <i>(N=983)</i>	39.6% 60.4%
Subjective work–life balance level	“Not in balance” or “sometimes in balance, sometimes not”	“More in balance” or “absolutely in balance”
	<i>Total</i> <i>(N=901)</i>	48.7% 51.3%
Perceived overload	“Never or rarely” or “sometimes”	“Often” or “very often”
	<i>Total</i> <i>(N=1000)</i>	46.7% 53.3%

While descriptive statistics provide an overview of the prevalence of digital parenting practices and the main characteristics of the sample, the subsequent analyses rely on multivariate regression models that allow the simultaneous examination of parent-related, child-related, and contextual factors.

6.1.2. Digital parenting in the framework of Belsky’s model

To examine how factors associated with the parental, child, and contextual subsystems relate to digital parenting practices, a stepwise modelling strategy was applied. Four nested binary logistic regression models were estimated for each dependent variable.

In Model I, only parent-related factors were included. This model captures the association between characteristics of the parental subsystem and the likelihood of engaging in each digital parenting practice.

Model II extends the analysis by adding child-related factors. This step allows examination of whether the observed parental effects remain stable when the child's characteristics are taken into account.

Model III introduces contextual factors related to family structure and parents' work circumstances. Including these variables enables assessment of how broader socio-economic and organizational conditions shape digital parenting practices beyond parent and child characteristics.

Finally, Model IV presents the full specification, including all explanatory variables simultaneously and additional control variables related to screen time. This final model provides the most comprehensive estimate of the joint relationships among indicators from the parental, child, and contextual subsystems and digital parenting practices. This modelling strategy mirrors the socio-ecological structure of Belsky's framework, allowing the relative contributions of the parental, child, and contextual subsystems to be examined sequentially.

In the following subsections, the same modelling strategy and set of explanatory variables are applied to three distinct digital parenting practices as outcome variables: parental monitoring of adolescents' technology use, parent-child co-play on digital devices, and parent-child discussions about technology use. Each subsection presents the regression estimates for one specific practice.

6.1.2.1. Socio-ecological factors associated with parental monitoring

Table 2 below presents the results of a binary logistic regression model estimating the probability that a parent monitors their child's technology use, reported as average marginal effects (AME). The reference category consists of parents who do not clearly monitor their child's technology use (i.e., those who do not monitor at all, or may, or may not monitor).

In Model I, parent-related factors were included. Parental age significantly affects the likelihood of monitoring: older parents are less likely to monitor their child's technology use. Parental educational attainment also significantly influences the probability of monitoring. Compared with parents with only primary education, parents with high school education and those with tertiary education are significantly more likely to monitor their children. Subjective parental quality is positively and significantly associated with the probability of monitoring: the more positively they evaluate themselves as parents, the more likely they are to monitor their child's technology use. Parental does not significantly affect the likelihood of monitoring.

In Model II, child-related factors were added in the next step, including the child's gender, age, and end-of-year grade point average (GPA). The child's age – similarly to parental age – significantly affects the likelihood of monitoring: the older the child, the less likely parents are to monitor their technology use. The child's academic performance is also significantly associated with monitoring: children with higher grade point averages are more likely to have their technology use monitored by parents. The child's gender has no statistically significant effect on the likelihood of monitoring. With the inclusion of child-related factors, the significant effects of parental age, educational attainment, and subjective parental quality all remain.

In the third step, contextual factors were introduced (Model III). Among these, the type of parents' occupation, perceived work–life balance, and parental feelings of overload show clear and significant effects. As noted earlier, these explanatory factors are included among contextual variables due to their underlying structural nature. Parents who work in white-collar jobs or as entrepreneurs are more likely to monitor their children's technology use than blue-collar parents. Parents who perceive their work and private life as in balance are more likely to monitor their child's technology use than those who do not. At the same time, parents experiencing overload are more likely to monitor their child's technology use than those who are not. The number of minors living in the household shows no significant effect on the likelihood of monitoring. The inclusion of contextual factors alters the effects of parent- and child-related variables: after their inclusion, the significant effects of parental age, subjective parental quality, the child's age, and academic performance remain, whereas the significant effects of parental educational attainment are no longer observed.

Model IV includes parent-, child-, and contextual factors, while additionally controlling for the total weekly screen time of both the parent and the child. With the inclusion of these control variables, the set of factors that significantly determine the likelihood of monitoring remains unchanged.

2. Table Monitoring of child's technology use (AME)

		Model I.	Model II.	Model III.	Model IV.*
Parent-related factors	Gender of the parent: female	reference category			
	Gender of the parent: male	0.013	-0.001	0.002	0.005
	Age of the parent	-0.014***	-0.010***	-0.011***	-0.011***
	Education level of the parent: 8th grade of primary school	reference category			
	Education level of the parent: vocational school	0.071	0.029	0.084	0.074
	Education level of the parent: high school graduation	0.166**	0.115+	0.106	0.092
	Education level of the parent: higher education	0.270***	0.201**	0.172+	0.144
	Subjective parental quality	0.148***	0.126***	0.104**	0.113**
Child-related factors	Age of the child		-0.045***	-0.041***	-0.031**
	Gender of the child: girl	reference category			
	Gender of the child: boy		0.001	-0.001	-0.006
	GPA: pass / average	reference category			
	GPA: good / very good / outstanding		0.136***	0.150***	0.131**
Contextual factors	Minors in the household: one	reference category			
	Minors in the household: more than one			-0.038	-0.034
	Type of occupation: blue-collar	reference category			
	Type of occupation: white-collar & entrepreneurs			0.083*	0.084*
	Work and life in balance: no	reference category			
	Work and life in balance: yes			0.168***	0.164***
	Perceived overload: no	reference category			
	Perceived overload: yes			0.085**	0.100**
<i>N</i>		992	987	894	876
<i>Pseudo R</i>		0.056	0.081	0.112	0.125

Note. Statistically significant estimates appear as *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.

*(Controlled for screen time of parent and child. Full regression models including control variables are reported in Appendix C.)

6.1.2.2. Socio-ecological factors associated with parent–child co-play

Table 3 below presents the results of a binary logistic regression model estimating the probability of joint parent–adolescent gameplay on digital devices, reported as average marginal effects (AME). The reference category comprises parents who never play digital games with their adolescent child.

In examining the likelihood of joint co-play on digital devices, parent-related factors were entered into the model in the first step (Model I). Parental age, education, and subjective parental quality show significant effects. Older parents are less likely to engage in digital gameplay with their children. Among parents with only primary education as the reference group, the likelihood of parent–child co-play on digital devices is higher in all higher educational categories. Parents who evaluate themselves more positively as parents are less likely to engage in joint digital gameplay. According to Model I, parental gender has no significant effect on the probability of co-play on digital devices.

In Model II, child-related factors were added. Parents are less likely to play digital games together with older children. Parents are more likely to engage in digital co-play with children who perform better academically. The child’s gender is also worth noting (although the p-value is above 0.05 and below 0.1): co-play on digital devices is less likely among boys than among girls. The significant parent-related factors identified in Model I – parental age and subjective parental quality – remain significant after the inclusion of child-related variables. However, with regard to educational attainment, a statistically significant difference remained only between parents with a high school education and those with only primary education.

In Model III, parent-related, child-related, and contextual factors are included simultaneously. Among the contextual factors, the number of minors in the household is significant: when there is more than one minor, the probability of parent–child co-play on digital devices is significantly lower. Similarly, parents who are experiencing overload are significantly less likely to engage in joint gameplay than those who are not. In contrast, parents who perceive their work and private life as balanced are more likely to engage in digital co-play with their children. According to the model, parental occupational category does not significantly affect the likelihood of parent–child co-play on digital devices. Importantly, the inclusion of contextual factors eliminates the effects of the high school education of the parent and the child’s GPA, which were found to be significant in Model II.

In Model IV, parental and child screen time are added as control variables. After including these controls, the negative significant effects of parental age, child age, subjective parental quality, the number of minors in the household, and perceived overload remain, while work–life balance continues to have a positive effect on co-play.

3. Table Parent–child co-play on digital devices (AME)

		Model I.	Model II.	Model III.	Model IV.*
Parent—related factors	Gender of the parent: female	reference category			
	Gender of the parent: male	0.051	0.037	0.039	0.043
	Age of the parent	-0.015***	-0.013***	-0.015***	-0.015***
	Education level of the parent: 8th grade of primary school	reference category			
	Education level of the parent: vocational school	0.148*	0.099	0.107	0.084
	Education level of the parent: high school graduation	0.175**	0.123*	0.069	0.041
	Education level of the parent: higher education	0.168**	0.106	0.063	0.028
	Subjective parental quality	-0.069*	-0.101**	-0.099**	-0.088*
Child-related factors	Age of the child		-0.035***	-0.041***	-0.034**
	Gender of the child: girl	reference category			
	Gender of the child: boy		-0.058+	-0.057+	-0.058+
	GPA: pass / average	reference category			
	GPA: good / very good / outstanding		0.082*	0.073+	0.050
Contextual factors	Minors in the household: one	reference category			
	Minors in the household: more than one			-0.073*	-0.075*
	Type of occupation: blue-collar	reference category			
	Type of occupation: white-collar & entrepreneurs			0.066	0.053
	Work and life in balance: no	reference category			
	Work and life in balance: yes			0.068*	0.071*
	Perceived overload: no	reference category			
	Perceived overload: yes			-0.096**	-0.082*
<i>N</i>		992	987	894	876
<i>Pseudo R</i>		0.028	0.043	0.071	0.082

Note. Statistically significant estimates appear as *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.

*(Controlled for screen time of parent and child. Full regression models including control variables are reported in Appendix C.)

6.1.2.3. Socio-ecological factors associated with parent–child discussions about technology use

Table 4 below presents the results of a binary logistic regression model estimating the probability of parent–adolescent conversations about technology use considered appropriate, reported as average marginal effects (AME). The reference category consists of parents who never or only very rarely discuss technology use considered appropriate with their adolescent child.

Model I includes parent-related factors. Older parents are significantly less likely to engage in conversations with their children about technology use that they consider appropriate. In addition, parents with high school and tertiary education are more likely to discuss appropriate technology use with their children than parents with only primary education. In contrast, parents with vocational education do not differ significantly (at the $p < .05$ level) from those with primary education in their likelihood of having such conversations. Subjective parental quality also has a significant and positive effect, while parental gender does not have a statistically significant effect on the probability of parent–child discussions about appropriate technology use.

In Model II, child-related factors are added. Among these variables, the child's age is significant: parents are less likely to discuss appropriate technology use with older children. The child's gender and academic performance show no statistically significant association with the likelihood of such conversations. The inclusion of child-related variables does not eliminate the significant effects of parental tertiary education, but the effect of secondary (high school) education is no longer statistically significant, and parental age does not reach significance at the $p < .05$ level.

In Model III, contextual factors are introduced. Among these, only perceived work–life balance shows a significant effect. Compared with parents who feel their work and private life are out of balance, those who perceive their work–life balance as adequate are more likely to discuss appropriate technology use with their child. According to Model III, the number of minors in the household, parental occupational category, and parental feelings of overload do not have a statistically significant effect on the likelihood of parent–child conversations about technology use. After including contextual factors, only the significant effect of child age remains.

In Model IV, parental and child screen time are included as control variables. After controlling for screen time, the effects identified in the previous models remain largely unchanged. Parental educational attainment warrants particular attention: while vocational school and tertiary education levels do not meet the $p < 0.05$ significance threshold in Model III, their effects become statistically significant again after the inclusion of the control variables. Overall, the likelihood of parent-adolescent conversations about appropriate technology use is increased by parents' vocational and tertiary education, and perceived work–life balance, and decreased by the child's age.

4. Table Parent–child discussion about technology use (AME)

		Model I.	Model II.	Model III.	Model IV.*
Parent-related factors	Gender of the parent: female	reference category			
	Gender of the parent: male	0.044	0.038	0.033	0.042
	Age of the parent	-0.008**	-0.005+	-0.005+	-0.006+
	Education level of the parent: 8th grade of primary school	reference category			
	Education level of the parent: vocational school	0.111+	0.077	0.120	0.154*
	Education level of the parent: high school graduation	0.121*	0.084	0.111	0.143+
	Education level of the parent: higher education	0.199**	0.154*	0.159+	0.184*
	Subjective parental quality	0.076*	0.050	0.031	0.033
Child-related factors	Age of the child		-0.041***	-0.037***	-0.035**
	Gender of the child: girl	reference category			
	Gender of the child: boy		0.004	-0.016	-0.022
	GPA: pass / average	reference category			
	GPA: good / very good / outstanding		0.039	0.058	0.051
Contextual factors	Minors in the household: one	reference category			
	Minors in the household: more than one			0.000	0.004
	Type of occupation: blue-collar	reference category			
	Type of occupation: white-collar & entrepreneurs			0.026	0.027
	Work and life in balance: no	reference category			
	Work and life in balance: yes			0.085**	0.080*

	Perceived overload: no	reference category			
	Perceived overload: yes			0.020	0.021
<i>N</i>		992	987	894	876
<i>Pseudo R</i>		0.020	0.031	0.036	0.047

Note. Statistically significant estimates appear as *** $p < .001$, ** $p < .01$, * $p < .05$, + $p < .10$.

*(Controlled for screen time of parent and child. Full regression models including control variables are reported in Appendix C.)

6.1.3. Summary of survey findings

In this subsection, I summarize the results of the logistic regression analyses for the three dependent variables, focusing on which parent-related, child-related, and contextual factors are consistently associated with the examined digital parenting practices and on the key differences across these practices.

Among parent-related factors, parental age plays a clearly important role in digital parenting. Its effect is negative and significant in both monitoring and parent–child co-play, and it also appears – albeit at a borderline significance level – in parent–child discussion. Among child-related factors, the effect of age is similarly unequivocal: the likelihood of monitoring technology use, engaging in co-play on digital devices, and discussing technology use all decrease significantly as children grow older. Moreover, the likelihood of all three practices declines at a very similar pace as adolescents’ age increases. These results support hypotheses H1.b and H2.a, which posit that increasing age of the parent and child is associated with a lower likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use.

The effect of parental educational attainment also appears across all three practices, but its initially observed influence changes once the full set of explanatory and control variables is included. In the case of monitoring and co-play, the significant effect of education disappears when contextual factors and screen time are included as additional explanatory and control variables. In contrast, when examining discussions about technology use, a significant effect of parental education emerges precisely after controlling for contextual factors and screen time. These findings suggest that educational attainment is more strongly associated with reflective practices related to technology use – like discussion – than with monitoring or co-play. Accordingly, Hypothesis H1.c is partially supported with respect to the effect of parental educational attainment on parent–child discussions about technology use.

The effect of subjective parental quality, included as a potential indicator of “good parenting”, differs across the examined digital parenting practices. While it consistently increases the likelihood of monitoring, the probability of parent–child co-play on digital devices is significantly lower among parents who evaluate themselves more positively. The effect of subjective parental quality also appears in discussions about technology use, but it is no longer significant after including all explanatory and control variables. Hypothesis H1.d posits that subjective parental quality is positively associated with the likelihood of parental monitoring, parent–child co-play, and parent–child discussions about technology use. The results provide partial support for this hypothesis. While monitoring technology use – as a responsibility-based practice – is closely linked to subjective parental quality, co-play on digital devices appears less closely aligned with this normative image.

Among the child-related factors, the association between end-of-year academic performance and parental monitoring should also be highlighted. The results indicate that parents are more likely to monitor the technology use of children with higher academic grades. This finding is consistent with hypothesis H2.c.

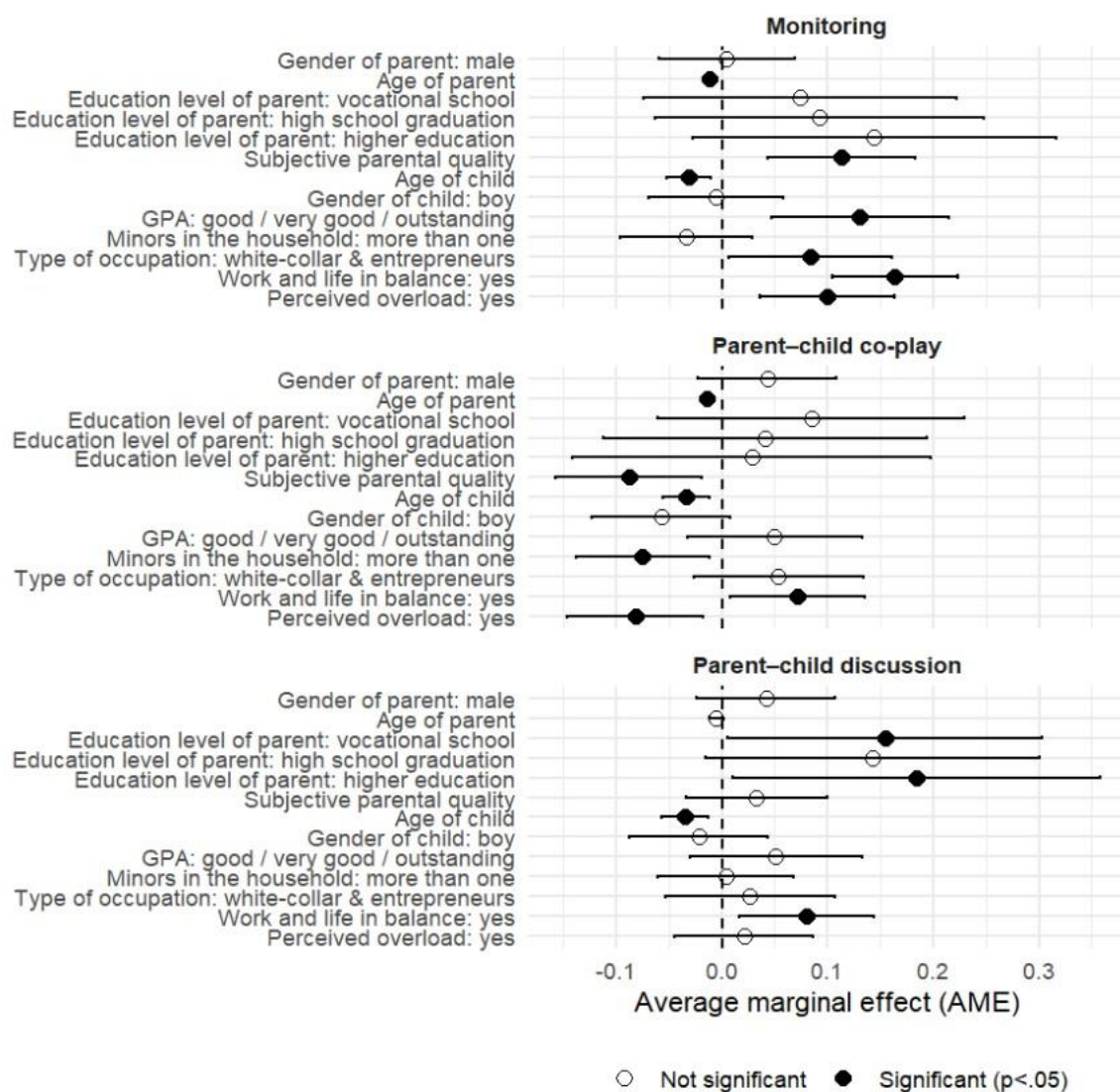
Among contextual factors, perceived work–life balance is the only variable whose effect remains significant across all three examined practices even after the inclusion of the full set of explanatory and control variables. The results indicate that the likelihood of monitoring technology use, engaging in co-play, and discussing technology use is higher when parents perceive their work and private life as balanced. In contrast, experiencing overload generates a different pattern of involvement across practices: the likelihood of monitoring is significantly higher among parents who are experiencing overload, while the likelihood of co-play on digital devices is significantly lower in this group. It is possible that parents decline co-play precisely because of their overload, whereas monitoring – experienced as a mandatory task or responsibility – may further intensify feelings of strain. Accordingly, the monitoring-related component of hypothesis H3.c is supported. However, the effect of perceived overload is less clear, and the results suggest that its role varies substantially across different digital parenting practices, pointing to distinct underlying logics within digital parenting.

Having multiple minors in the household affects only the likelihood of co-play. Thus, hypothesis H3.a receives only partial support, as the presence of multiple minors in the household does not appear to decrease the likelihood of monitoring children’s technology use or of engaging in discussions about it. In addition, the occupational category influences only

the likelihood of monitoring, which partly supports H3.b.

Contrary to expectations, the effects of parental and child gender are weak and cannot be clearly demonstrated for any of the examined digital parenting practices. This means that hypotheses H1.a and H2.b cannot be accepted. Overall, the three practices operate according to different socio-ecological logics: the same factor may exert opposing effects across different practices within digital parenting. The figure below (Figure 7) illustrates the distinct patterns relevant to each practice.

7. Figure Average marginal effects on digital parenting practices (results from the final binary logistic regression models)



Overall, the results suggest that different digital parenting practices follow distinct socio-

ecological logics: monitoring is more strongly linked to normative conceptions of parental responsibility, while relational practices such as discussion and co-play are more sensitive to educational resources and contextual constraints. Because they derive from the 2017 survey, these associations describe digital parenting under the conditions of that year, not the present; the qualitative chapters that follow examine how parents interpret and negotiate these practices in two later snapshots.

6.2. Analysis of semi-structured one-on-one interviews

6.2.1. Digital parenting

Parents referred to a wider range of practices when describing how they manage their children's technology use in everyday family life. The present analysis focuses on three forms of digital parenting that are central to this study: monitoring, discussions about technology use, and joint digital activities. These practices varied considerably across families in both form and intensity.

Both non-technological and technological forms of monitoring appeared in parents' narratives. Non-technological monitoring typically involved entering the child's room at random moments or glancing at the screen in shared spaces, most often during study time or in the evening. Parents frequently reported discovering that children were using devices despite prior agreements. Verbal interventions were common but often described as ineffective, as subsequent checks revealed a return to device use. Technological monitoring included tracking screen time, checking which platforms or applications were accessed, and occasionally applying filters or time restrictions. Content monitoring ranged from checking browser histories and social media profiles to more intrusive practices such as logging into a child's account or tracking physical location. Additional control practices included password protection and temporarily removing devices.

In several interviews, contradictions emerged in how parents defined monitoring. Some initially claimed that they did not monitor their child's technology use, but later described practices such as spot checks or observing the child's screen activity from a distance. Parents primarily justified monitoring in terms of safety and age-appropriate use. Concerns focused on potential contact with strangers, exposure to harmful or sexual content, and experiences of bullying. While many emphasized the importance of trust in their child, they framed monitoring as a precautionary measure. Screen time limits were justified more decisively, as parents frequently associated unrestricted use with addiction, passivity, and withdrawal from offline activities. The main counterargument to monitoring concerned respect for children's privacy. Parents who

rejected monitoring described technology use as a private matter and relied instead on prior discussions and mutual trust. Notably, parents who monitored their children were also more likely to remove devices as a form of punishment, typically in response to declining school performance, whereas such practices were largely absent among non-monitoring parents. The interview results show that parental monitoring operates along a continuum ranging from trust-based supervision to more intrusive forms of surveillance. While many parents framed monitoring as a precautionary practice motivated by safety concerns, their narratives also revealed tensions between parental control and adolescents' privacy.

Another important dimension of digital parenting concerned discussions about the appropriate use of technology. The frequency of such discussions varied considerably. At one end of the spectrum were families in which conversations about digital technologies were largely absent, apart from reminders that children should remain reachable by phone. At the other end were parents who reported regular, deliberate conversations. Between these extremes, the most common pattern was reactive, situation-based discussion triggered by specific events.

The content of these discussions primarily focused on potential risks. As in the case of monitoring, parents frequently mentioned concerns about sharing personal information, exposure to violent or pornographic material, and the possibility of addiction. Rather than providing practical knowledge about digital environments, parents tended to emphasize values and boundaries. Several respondents described these conversations as being triggered by concrete incidents or external prompts.

"If I come across something interesting [article], I send it to her. And during these kinds of discussions, we talk about what the problem is with just watching TikTok, clicking through ten-second videos, moving on constantly, and what effect that has on the brain." (father, 51; daughter, 13)

Monitoring and discussion were combined in different ways across families: some parents relied on both practices, some used only one, and some used neither.

Shared technology use was also reported across several interviews. Watching films together clearly emerged as the most common form of co-use. Less frequently, but still mentioned by several respondents, parents reported shared computer or video gaming, involving either one parent or the whole family. Other shared activities included watching television series, viewing online videos, revisiting family recordings, and listening to or sharing music. Parents generally framed co-use as a form of connection and shared leisure rather than as a strategy for

supervision. Several respondents noted that discussions about the viewed content often followed such shared activities.

Parents' accounts also suggested that these practices are not shaped by a single factor. Instead, they are embedded in a broader set of influences, including parents themselves, the child's characteristics, and the wider family and social context. The following sections, therefore, examine how parents link these practices to parent-related, child-related, and contextual factors, drawing on Belsky's (1984) socio-ecological model of parenting.

6.2.2. Digital parenting in the framework of Belsky's model

6.2.2.1. The role of parent-related factors in digital parenting

The interviews indicate that several characteristics of parents shape how digital parenting practices are implemented within families. In particular, parents frequently referred to the mental workload associated with coordinating children's digital activities, their own digital competencies, and their attitudes toward digital technologies when explaining how they monitor device use, discuss technology with their children, or engage in shared digital activities (Table 5). Considerations of time, availability, and work-related constraints, which parents also raised, are examined among the contextual factors in Chapter 6.2.2.3.

5. Table Parent-related factors shaping digital parenting (one-on-one interviews)

Parent-related factor	Related interview quote
(1) The mental and organizational work of digital parenting	"There's the coordination of the children, their lives, their duties, school, training, everything, and then my own life, work, studies, the whole family's life, the household of course. There's so much that would need to be coordinated and kept in mind, so yes, it isn't easy." (mother, 44; son, 15)
(2) Parents' digital competencies	"Anything to do with the phone is over my head. The children understand it better. If something's wrong, my son looks at it. The phone is really... I only make calls on it. It's just somehow alien to me." (mother, 41; son, 15)
(3) Parents' attitudes toward digital technologies	"My husband is very much into tanks, World of Tanks, so yes, they are at home in this world, they play." (mother, 42; son, 15)

Based on interview data, digital parenting often entails *constant organizational and mental work* (1) for parents. Monitoring children's device use, discussing appropriate online behavior,

and managing screen-time rules require continuous attention and coordination within everyday family life. In several cases, this responsibility appeared to be unevenly distributed within the household. Interviewees described situations in which one parent assumed the role of the primary “screen-responsible” parent, who set and enforced rules regarding device use more consistently than the other. This unequal distribution of responsibility sometimes generated tensions between parents, particularly when one parent perceived the other as either too strict or too permissive regarding children’s screen use. At the same time, such patterns did not appear consistently across all families, suggesting that responsibility divisions varied across households.

Parents’ *digital competencies* (2) also played an important role in shaping digital parenting practices. Respondents with higher levels of digital literacy often described more active forms of monitoring and more frequent discussions with their children about online risks and the appropriate use of technology. In contrast, parents who perceived themselves as less digitally skilled reported difficulties supervising their children’s activities in digital environments. Among parents with lower levels of digital competence, monitoring was often limited to observing time spent on devices rather than the specific platforms or content accessed. Several respondents explicitly noted that their limited technical knowledge constrained their ability to regulate or monitor their child’s digital activities.

Parents’ broader *attitudes toward digital technologies* (3) also influenced their approaches to digital parenting. Many respondents expressed ambivalent or critical views about digital media. While they often acknowledged that digital technologies are an integral part of their children’s everyday lives, they simultaneously voiced concerns about excessive screen time, reduced physical activity, and the risk of addiction. At the same time, a smaller group of parents adopted a more positive perspective and emphasized potential benefits of digital technologies, such as supporting learning, developing language skills, or maintaining social connections. In these families, shared technology use was more likely to be framed as joint leisure rather than as a problem to be regulated. Parents who themselves engaged in digital activities, such as playing computer games, were also more likely to participate in shared digital play with their children. According to Belsky’s (1984) framework, these patterns highlight how characteristics of the parental subsystem – including parents’ resources, competencies, and everyday constraints – shape how digital parenting practices are implemented within families.

6.2.2.2. The role of child-related factors in digital parenting

The interviews suggest that several child-related characteristics shape how parents approach

digital parenting practices. Parents frequently referred to their children's everyday activities, temperament, age, and patterns of digital engagement when explaining why they chose particular strategies of monitoring, discussions about technology use, or shared digital activities. These child-related factors influenced not only how parents perceived the risks associated with digital technologies but also how necessary or feasible they considered different forms of parental regulation or involvement (Table 6).

6. Table Child-related factors shaping digital parenting (one-on-one interviews)

Child-related factor	Related interview quote
(1) Structure of daily activities and amount of leisure time	"She doesn't do sport on a daily basis, there's horse riding, once a week, so that doesn't take time away from the screens either. I think she's on devices a lot." (mother, 41; daughter, 16)
(2) Children's overall workload, free time, and fatigue	"Every weekend one of the days was full training, so she had roughly a single day off, and then we never really bothered her about it." (mother, 43; daughter, 16)
(3) Temperament and social orientation	"It has always been quite difficult to motivate her to participate in programs. (...) She is relatively weakly attached to the real world because she has few points of connection, and therefore, in her case, I find it particularly dangerous that this virtual world absorbs her, which, of course, contains many useful things, (...), but fundamentally, I do not consider this essentially passive activity to be good." (father, 51; daughter, 13)
(4) Age and developmental stage	"My life cannot be about constantly checking what he is doing at fifteen and a half. I try, I try to keep an eye on it, I try to set rules about what he should watch and what he should not, but honestly, once he is already this old, this becomes very difficult." (mother, 44; son, 15)
(5) Gender and gendered activity patterns	"With our son there was a period when he too was hooked on the computer; with the girls we didn't really see this, at least they didn't game. The girls tended more to message with friends; they weren't so fixated on these games." (mother, 49; son, 16)

One of the most frequently mentioned child-related factors shaping digital parenting practices was the structure of children's *daily activities and the amount of time available for leisure* (1). This factor belongs to the child-related subsystem because parents read the child's routine and energy to judge how much risk digital media poses; when they respond by structuring the child's time, they are reacting to the child's situation rather than to the family's structural

conditions. Parents often referred to the number of extracurricular activities their children attended, the types of sports, music, or other programs they participated in, and the overall level of workload associated with school and organized activities. In families where children were engaged in several extracurricular activities during the week, parents often perceived the risk of excessive technology use as relatively limited. In these cases, digital device use was often framed as one activity among many competing demands on the child's time. Conversely, parents whose children had fewer structured activities or more unstructured free time sometimes expressed stronger concerns about the potential dominance of digital media in everyday life. In such cases, monitoring and regulating device use were often considered particularly important.

Parents also referred to children's *overall workload, available free time, and general fatigue* (2) when explaining their regulatory practices. Here too the relevant factor is the child's own state, since parents interpret the child's workload and tiredness, rather than the family's circumstances, when deciding how strictly to regulate. In some interviews, parents justified a more relaxed approach to monitoring by framing time spent with digital devices as deserved rest or relaxation for an otherwise overburdened child. In this sense, children's daily routines and time constraints shaped monitoring practices, the frequency of discussions about technology use, and opportunities for shared activities.

Parents also frequently referred to their children's *temperament and social orientation* (3) when explaining how they approached monitoring and regulating digital device use. In particular, respondents highlighted differences between children who were socially active and open to various activities and those who were more withdrawn or less motivated to participate in offline programs. Parents sometimes described situations in which a child's limited range of interests or lower engagement in offline activities increased their concerns about the potential influence of digital media. For these parents, monitoring and regulating technology use appeared particularly important because digital environments could easily become the child's primary sphere of activity. In contrast, parents whose children were socially active, communicative, and regularly involved in various offline activities tended to express fewer concerns about the impact of digital technologies. For example, one mother reported feeling less worried about the potential effects of technology on her daughter precisely because the child maintained a broad network of social relationships and participated actively in offline interactions.

Children's *age and developmental stage* (4) also appeared repeatedly in parents' explanations of digital parenting practices. Several respondents emphasized that the feasibility and perceived legitimacy of monitoring changed as children grew older. Parents of older adolescents,

particularly those aged 15–16, often reported that monitoring practices used in earlier stages of childhood were no longer considered appropriate, meaningful, or feasible. Age also influenced the frequency and content of conversations about technology use. Some parents reported that discussions about appropriate online behavior and potential risks were more frequent when their children were younger but became less common as children entered the later stages of adolescence. Parents who reported not engaging in discussions about appropriate technology use sometimes justified this decision by arguing that their child would not yet understand such conversations or that children must first develop sufficient self-control before such discussions become meaningful.

(5) The child's *gender* (5) was mentioned less explicitly in parents' reasoning; however, gender differences emerged indirectly through references to the types of digital activities children engaged in and the risks parents associated with them. Parents often described different patterns of device use among boys and girls, which shaped both the perceived risks and the strategies used to monitor or regulate these activities. In the case of boys, parental concerns about technology use frequently focused on computer games and exposure to violent or pornographic content. These concerns often served as arguments for monitoring and restrictions, and they were also common topics in conversations with sons. In contrast, regarding daughters, parents more often emphasized risks associated with social media use, including the sharing of personal content and potential contact with strangers. These concerns sometimes led parents to focus more strongly on discussions about online behavior and privacy. Importantly, the different types of activities typically preferred by boys and girls also enabled different forms of parental monitoring. Computer gaming often takes place at home and is relatively place-bound, allowing parents to supervise it through simple visual observation. In such cases, both the content and the duration of gaming may be somewhat easier to monitor or restrict. By contrast, girls' activities on social media and video-sharing platforms often occur on mobile devices and may take place in more private contexts, making them more difficult to monitor and more likely to raise concerns about potential privacy violations from the parents' perspective.

To summarize the interviews, digital parenting practices were shaped by parents' strategies in interaction with the characteristics of the child. Parents frequently linked monitoring, discussion, and shared technology use to children's routines, temperament, age, and patterns of digital engagement.

6.2.2.3. The role of contextual factors in digital parenting

The interviews indicate that digital parenting practices are shaped by the interaction of parents'

characteristics, children's characteristics, and the contextual circumstances in which families operate. Respondents frequently referred to factors such as family structure, work arrangements, the time available for family life, peer environments, and broader social expectations when explaining how they monitor children's technology use, discuss digital media, or establish rules related to screen time (Table 7).

7. Table Contextual factors shaping digital parenting (one-on-one interviews)

Contextual factor	Related interview quote
(1) Family structure and division of responsibilities within the household	"We couldn't enforce it, and after a while there was no longer any agreement between us as parents about how hard to fight for it, because my husband very, very forcefully wanted to impose the rules on me. He wanted to be the one who decides and me the one who carries it out." (mother, 48; son, 16)
(2) Work arrangements	"Andrew was born into a world where there really is such a thing as dad sitting at the computer, mom sitting at the computer, and you can't even talk to us. So for him, this is a completely legitimate mode of behavior – you can't talk to them, they are behind closed doors, and he hasn't seen anything different from us. There were long hours when he would go to his father and tug at his sweatpants, saying 'Dad,' and then it was 'Wait, I'll finish the sentence,' and (...) only then would it be 'Now I'm listening to you.'" (mother, 48; son, 16)
(3) Parents' time availability and everyday coordination	"It would probably be better to influence [technology use], but somehow we would have to manage our time better (...) while we are dealing with our own things, we don't even notice that he is sitting in front of the computer." (mother, 49; son, 16)
(4) Peer environments and parents' social networks	"We usually talk about this together with the other parents, that it's a real struggle, how one is supposed to handle this, because if you don't restrict it, then from morning till evening... There are kids who, I know, don't do this. I hear it about girls, but boys are very technical types. But we don't want that, because it's not healthy and not normal. (...) We also discuss [with other parents] questions such as: Peter goes to your place – can they play or not? This is a general rule, because it's extremely awkward when, say, a friend comes over, and I take their phone away and say they can't play." (mother, 42; son, 13)
(5) Broader social expectations and role modeling	"When we discuss how these rules should be set, I also acknowledge that I'm not a good example, because I often pick up my phone and look at it. I've even said that I'll remove Facebook and Messenger. (...) The other day, it was a liberating feeling when my phone ran out of battery, and I didn't have it for half a day. That's why I say that I struggle too." (mother, 49; daughter, 15)

Family structure and the distribution of responsibilities within the household (1) emerged as important contextual influences on digital parenting. In several interviews, respondents described situations in which monitoring and regulating children's technology use were affected by living arrangements, partnership status, or the division of roles between adults in the household. When a parent lives alone and does not work from home, children may spend late afternoons or evenings without direct supervision, placing greater emphasis on the child's ability to regulate their time and device use. In families where a divorced parent lives with a new partner, the partner often does not participate in regulating or monitoring the child's technology use, resulting in a lack of shared responsibility.

The interviews also suggest that separated parents do not necessarily agree on how children's technology use should be managed. Several respondents reported that different rules apply depending on whether the child is staying with the mother or the father. One divorced mother explicitly mentioned that one of the reasons for the breakdown of her marriage was the regular conflict with her former husband, who introduced rules regarding screen use but expected the mother to enforce them. Other divorced parents reported that technology use was largely uncontrolled at their former spouse's home, a situation with which they disagreed. Regardless of relationship status, when responsibility for monitoring, regulating, and discussing technology use is concentrated in one parent's hands while the other remains less involved, tensions may arise within the couple's relationship. In such cases, the parent who assumes the role of the primary "screen-responsible" parent often experiences additional organizational and emotional demands.

Parents' *work arrangements* (2) also emerged as an important contextual factor shaping digital parenting practices. Employment conditions shape how much time parents can spend with their children and how easily they can monitor technology use. Flexible working hours and remote work may increase the possibility of being physically present at home and observing children's activities. At the same time, several parents noted that work demands often compete with family responsibilities, limiting the attention they can devote to supervising children's device use. Occupation can also influence parents' familiarity with digital technologies. According to several interviews, parents whose work involves regular use of digital tools or technical knowledge often have a more detailed understanding of how their children use devices and what forms of monitoring or regulation are technically possible. At the same time, parents sometimes reflected on how their own technology use forms part of the everyday digital environment in

which their children grow up.

Closely related to work arrangements, *parents' availability of time and their everyday presence* (3) in the home shaped digital parenting practices in their own right. Opportunities for monitoring children's technology use were often closely linked to parents' work schedules and daily routines. When parents worked outside the home and arrived late, monitoring based on physical presence was typically limited to the evening hours. Conversely, working from home did not necessarily increase supervision, as blurred boundaries between work and family responsibilities often made it difficult for parents to actively attend to children's activities.

Beyond time constraints, the interviews suggest that managing children's digital activities often becomes part of a broader set of everyday coordination tasks within families. Parents described the need to manage work responsibilities, household tasks, children's school obligations, extracurricular activities, and family routines simultaneously. In this context, supervising children's technology use was often seen as one additional responsibility among many competing demands. Several respondents indicated that maintaining and enforcing rules related to screen use required continuous attention and repeated negotiation with children, which could become exhausting over time. As a result, some parents reported abandoning previously established rules because they lacked the energy to "fight constant battles" over digital device use.

Children's peer environments and parents' own social networks (4) also played an important role in shaping digital parenting practices. Parents often described how the types of games, applications, or platforms used by their children's friends influence their own decisions about regulation. Several respondents stated that they avoid prohibiting activities that are widely used within the child's peer group because they do not want their child to be excluded from shared social experiences. At the same time, parents reported often discussing issues related to children's screen use with other parents. Such conversations allow them to exchange experiences and negotiate common expectations regarding device use. Parents' decisions about whether and under what conditions children are allowed to visit friends may also depend on their knowledge of the screen-use rules applied in other households.

Finally, several interviews suggest that parents' decisions about regulating technology use are also shaped by *broader social expectations regarding responsible parenting* (5). Schools and peer environments often serve as reference points in discussions about children's technology use. Parents described situations in which conversations about digital media began in response to school-related events or practices observed in other families. In these contexts, parents

responded to their child's behavior while also orienting themselves to implicit social norms about appropriate parental responsibility. Some respondents reflected critically on their own practices, suggesting that they "should" regulate technology use differently or that they might be making mistakes in managing their child's screen time. In several interviews, parents said their child's screen use might reflect negatively on their parenting. At the same time, relatively few respondents explicitly emphasized the importance of parental role modeling. However, some parents demonstrated a reflective awareness of how their own device-use habits influence the family's digital environment.

The interviews suggest that digital parenting practices are embedded in a broader social and institutional context. Family structure, work arrangements, peer environments, and prevailing social expectations all shape how parents interpret and manage their children's technology use. These contextual influences shape parents' opportunities for monitoring and regulation, as well as the norms and expectations against which they evaluate their own practices.

6.2.3. Summary of interview findings

The semi-structured interviews provided detailed insight into how parents describe and interpret managing their children's technology use in everyday family life. The analysis focused on three core forms of digital parenting practices – monitoring, discussions about technology use, and parent–child co-use of technology – and examined how these practices are shaped by factors related to parents, children, and the broader social context. The findings indicate that digital parenting cannot be understood as a single, uniform strategy. Instead, parents' approaches emerge from the interaction of multiple influences operating simultaneously within families. The interviews reveal that parents continuously negotiate between concerns about risks, the child's developmental needs, practical constraints of everyday life, and broader social expectations about responsible parenting.

Parent-related factors emerged as a particularly important set of influences shaping digital parenting practices. Parents frequently referred to their digital competencies and their attitudes toward digital technologies when explaining how they monitor device use, discuss online behavior, or engage in shared digital activities. One of the most prominent findings concerns the mental and organizational work involved in managing children's digital lives: parents described monitoring, discussing appropriate use, and enforcing screen-time rules as practices that require continuous attention, reflection, and coordination within everyday family life. This work was often experienced as demanding, and in some households it appeared unevenly

distributed, with one parent serving as the primary “screen-responsible” parent and at times experiencing tensions with the other over how strictly technology should be regulated. Parents’ own digital skills and attitudes toward technology further influenced how actively they monitored their children's online activities and whether they framed digital technologies primarily as a risk or as a potential resource. Considerations of time, everyday presence, and the competing demands of work and household life, which parents also raised, are discussed below among the contextual factors.

Child-related factors also played a central role in shaping parents’ approaches to digital parenting. Parents frequently linked their strategies of monitoring, discussion, and shared digital activities to characteristics of the child, including everyday routines, temperament, age, and patterns of digital engagement. Children’s daily schedules – particularly the number of extracurricular activities and the overall workload associated with school – often influenced how parents evaluated the risks of excessive screen use. For children with busy schedules, digital device use was sometimes framed as a form of relaxation, whereas children with more unstructured free time were perceived as being at greater risk of overuse. Parents also referred to differences in temperament and social orientation. Children who were socially active and engaged in offline activities were generally seen as less vulnerable to the negative effects of digital media, while more withdrawn children were perceived as potentially more susceptible to becoming absorbed in digital environments. Age was another important factor: several parents reported that monitoring becomes more difficult and less legitimate as children enter later stages of adolescence. In addition, gender differences emerged indirectly through parents’ descriptions of their children's digital activities and perceived risks. Boys’ device use was more often associated with gaming and exposure to violent or pornographic content, while concerns related to girls more frequently focused on social media use, online communication, and privacy.

Beyond the characteristics of parents and children, the interviews also highlighted the importance of contextual factors shaping digital parenting practices. Family structure and the distribution of responsibilities within the household influenced who monitored children’s technology use and how consistently rules were enforced. In families affected by divorce or separation, parents sometimes described different screen-use rules in the two households, which occasionally generated tensions or inconsistencies in regulation. Parents’ employment conditions also played a significant role. Work schedules, remote work arrangements, and occupational demands shaped both the time available for supervision and parents’ familiarity

with digital technologies. Closely related to these employment conditions, the time parents had available and their everyday presence at home shaped their opportunities for supervision: when parents worked outside the home or faced competing demands from work, household tasks, and the organization of children's school and extracurricular activities, supervising technology use became one additional responsibility among many. Several parents reported that maintaining screen-time rules could become exhausting over time, leading them to relax or abandon previously established restrictions. Peer environments and parental social networks constituted another important contextual influence. Parents often considered their children's friends' digital practices when deciding on regulation, and many described discussing screen-use rules with other parents. These exchanges helped establish informal norms about acceptable technology use within peer groups. Finally, broader social expectations about responsible parenting also shaped parents' reflections on their own practices. Several respondents said managing children's screen use had become a marker of good parenting, and that they sometimes evaluated their own behavior against perceived social standards.

Overall, the interview findings suggest that digital parenting practices are embedded in an intertwined play of parental resources, children's characteristics, and broader contextual conditions. Monitoring, discussions, and shared digital activities are not simply the result of individual parental decisions but are shaped by everyday constraints, family dynamics, and social expectations surrounding technology use. Understanding digital parenting, therefore, requires attention to the multiple levels at which these practices are formed and negotiated within family life. The following chapter complements these findings by presenting the results of the focus group discussions. While the individual interviews provided insight into parents' personal experiences and everyday practices, the focus groups enabled exploration of how parents collectively reflect on digital parenting, negotiate norms, and articulate shared concerns about children's technology use.

6.3. Analysis of focus group interviews

6.3.1. Digital parenting

The focus group material suggests that digital parenting is experienced primarily as a moral domain of parenting under conditions of uncertainty, rather than as a set of technical regulatory decisions. Despite these differences, the discussions were marked less by conflict than by mutual recognition and empathy. It was not framed as an optional development but as a structural condition that families must adapt to. Digital technologies were described both as

practical tools and as sources of new tensions in family life. Parents repeatedly grappled with questions of responsibility: how far their duty extends in regulating this domain, what they are justified in allowing or restricting, and how much autonomy can reasonably be granted to their children.

What varied across parents was not simply whether they monitored, engaged in co-use, or talked with their children about technology, but how they justified these practices and what meanings they attached to them. For this reason, the following sections first briefly describe the three practices and then interpret them through Belsky's (1984) socio-ecological model.

6.3.1.1. Parental monitoring of adolescents' technology use

Monitoring generated the most coded references; it was the topic most frequently and most extensively discussed, with parents articulating detailed opinions, experiences, and doubts. In parental narratives, monitoring appears simultaneously as an unavoidable responsibility and as a practice that generates ongoing internal dilemmas around trust and control, protection and autonomy. Monitoring was described as a morally and emotionally charged parental task. Parents frequently linked it to anxiety, uncertainty, and frustration, especially when they felt less technologically competent than their children. In this sense, monitoring appeared as a response to children's behavior and as a way of managing parental responsibility in a rapidly changing digital environment. At the same time, participants often framed it as a "mandatory" aspect of good parenting, even when it increased conflict or everyday burden.

Two different logics can be discerned in accounts of monitoring. One is grounded in trust; the other in protection. According to this trust-based approach, overseeing a child's technology use is justified only when a concrete problem or risk arises. In such narratives, parents emphasize trust in the child and worry that excessive control may damage the parent-child relationship and infringe on the child's privacy. The other dominant logic is based on protection and prevention. Here, monitoring is framed as a necessary tool to guard against potential online risks, including exposure to inappropriate content, contact with strangers, and addiction. In describing this stance, some parents used the metaphor of "hold the brake," suggesting that without monitoring and control, they would effectively allow their child to "speed" through dangerous terrain without restraint. These two approaches often coexist, overlap, or operate with different emphases within the same family.

Monitoring often involves technical tools, e.g., Family Link, and other parental-control or filter

applications, as well as screen-time or specific-app time limits. These tools were often described as conflict-reducing, yet several parents also felt that such tools communicated distrust.

“There’s this Family Link, so he can’t open everything, and you get an email about how much time he spent on it, what he used, and so on. But I really felt that for the kids, it came across badly. They didn’t have a phone for a very long time – we had so many small battles in primary school about why they didn’t have one, why they couldn’t play on a smartphone. And then, to top it off with this ‘police state’ feeling, checking what they were doing, I felt they experienced it as a deep offence. If they’ve grown up this way, why don’t I believe that they won’t start doing what people usually worry about? You look into their room, knock, go in, and ask what they’re watching. And then there were so many situations like: ‘Look, see what I’m watching – why don’t you trust me? You can see what’s open.’ We never actually encountered anything shocking.” (mother, 47; sons, 13 and 15)

Within the broader tension between trust and autonomy, the development of self-control also emerged as a recurring theme. Several parents described striving to foster internal regulation. They rarely rely on external restrictions. The following father illustrates this position:

“What we wanted was for him to feel for himself where the boundaries are. How should I put it – holding his hand. Not letting go but not banning things either. We discussed that two hours is the limit. On his computer, since he’s interested in IT, there aren’t such restrictions. Given my background in informatics, I sometimes checked with his knowledge. Not secretly looking at his browser history. I didn’t consider that ethical, even with my own child. There are tracking apps, of course, but my wife and I believe that if we sit down and talk it through, make him aware, then it’s manageable. I strongly hope that’s the case. Still, I see how easy it is to slip into six or seven hours a day. It happens with his classmates.” (father, 58; son, 14)

At the same time, a recurring feature of the focus groups was that parents frequently denied engaging in monitoring (“I don’t check,” “I don’t look”), even as their accounts revealed implicit forms of oversight. These included occasionally glancing at the screen, asking about specific activities, or simply being physically present while the child used digital devices. This contradiction suggests that parents interpret monitoring narrowly, associating it mainly with technical control, even though they routinely follow their children’s digital activities in everyday interactions. It may also indicate that the term “monitoring” itself carries emotional

weight; parents often prefer to frame their behavior as “paying attention” rather than as surveillance. This suggests that the category of “monitoring” is itself normatively loaded and often rejected by parents even when their everyday practices clearly involve oversight.

6.3.1.2. Parents and adolescents' co-use of technology

The focus group discussions suggest that shared digital use between parents and children depends heavily on situational factors and available resources. Rather than being framed as a parental duty or educational strategy, it usually works as an occasional activity embedded in everyday family life. Its occurrence also depends on overlapping interests and willingness to participate on both sides.

Co-use most frequently involves content consumption – primarily co-viewing films or video – and co-playing digital games. When co-use was described as meaningful, it was typically framed as a way of gaining insight into children’s digital worlds and combining connection with indirect oversight. The “learning together” narrative is particularly evident in online video games. Several parents acknowledged that only by participating alongside their children were they able to interpret the social dynamics of gaming environments. The following mother described how her husband’s involvement in playing with their daughters enabled both risk awareness and mutual understanding:

“For us, it meant getting involved – connecting, listening. My husband was really enthusiastic about these games. And because they talked about them and we joined in, we could then say, okay, if there’s this kind of feature, pay attention to that, or don’t play with strangers.” (mother, 43; daughters, 12 and 14)

Parents tend to describe such co-use more like opportunities to connect than conscious developmental or regulatory practices. Co-use is simultaneously portrayed as a legitimate and enjoyable form of bonding, and as something that fits less comfortably into normative ideals of “good parenting.” Several participants associated responsible parenting more strongly with organizing offline shared activities.

“We don’t really play together through devices; that’s not what connects us when we play. With my 14-year-old, sometimes we do, but even for him it’s still quite limited – Viber, Messenger, things like that – so we’re gradually introducing it. Yes, with him we sometimes keep in touch through these channels, but no, for now our shared activities are definitely not organized around this.” (mother, 40; daughter, 12; son, 14)

Compared to monitoring and conversations about technology, co-use appears as the least moralized element of digital parenting. Parents rarely describe it as a parental duty; rather, it works as a situational and often spontaneous activity embedded in everyday family life.

6.3.1.3. Discussing technology use in the family

In parental narratives, conversations about technology are widely framed as the most legitimate form of parental involvement, a “proper” way of conveying values and boundaries without relying primarily on control. At the same time, these conversations rarely appear as planned educational activities; rather, they emerge as situational and reactive interactions, typically triggered by concrete events such as school incidents, media reports, or perceived online risks. Several parents emphasized that such conversations are rarely one-off events; rather, they constitute recurring, iterative processes in which similar themes resurface across different life situations. The mother quoted below, for instance, regarded real-life examples as the most effective entry points:

“In our case, when it comes to dangers, ongoing communication has worked. If I read something or something came up online related to this, and I felt it could be instructive for my child.” (mother, 42; daughter, 15)

The content of these conversations is strongly risk-focused. Frequently mentioned topics include online contact with strangers, cyberbullying, inappropriate content, and the growing problem of misinformation and lack of source criticism in digital environments. Parents often stress that technical proficiency does not equate to conscious or responsible use:

“I think I try to pass on the good and useful things to my child. There are numerous advantages and opportunities, but they must be taught. Tamás mentioned source criticism, and I consistently try to draw her attention to it, using examples when she encounters it. There are many conversations in the background.” (mother, 50; daughter, 15)

Although risks dominate these conversations, they are not exclusively prohibitive. Parents also describe discussing constructive uses of technology, particularly for learning, information seeking, and independent problem-solving. In several accounts, such discussions aim to foster self-regulation rather than impose strict prohibition. One mother expressed it as follows:

“I don’t shut it off completely; instead, I try to build a kind of awareness in her about dangers that leads to self-control. She even brings me her phone when she’s studying. I never asked

her to do that; it wasn't an expectation, but she does it on her own. I really hope I didn't make a mistake by not forbidding it, but instead trying to motivate her to set limits for herself in a conscious way." (mother, 50; daughter, 15)

Conversations about technology also reveal parents' broader uncertainty about how to guide children in a digital environment, one they themselves lack personal experience with. In the focus group setting, such reflections often triggered visible relief among participants. Parents responded to one another's accounts with empathy, suggesting that digital parenting dilemmas are not experienced individually but processed collectively. In this sense, conversations about technology appear not only as parent–child interactions but also as part of a broader process of shared parental sense-making.

Overall, rather than transmitting fixed rules, technology-related parent–child discussions maintain a constant communicative space in which parents attempt to guide adolescents' digital experiences.

6.3.2. Digital parenting in the framework of Belsky's model

Belsky's (1984) socio-ecological model provides a useful analytical lens because it conceptualizes parenting as the outcome of interacting influences related to parents, children, and the broader social environment. The following chapters therefore analyze digital parenting practices through the three subsystems of Belsky's (1984) model. This approach allows the findings to move beyond the description of individual practices and instead examine how different influences intersect in shaping parents' everyday decisions and interpretations regarding adolescents' technology use.

6.3.2.1. The role of parent-related factors in digital parenting

The focus group discussions suggest that parent-related factors provide the main interpretive frame through which digital parenting is understood. Parents do not describe monitoring, co-use, or conversations about technology as neutral techniques. They interpret these practices through their own values, experiences, fears, and ideas about what a good parent should do. In this sense, parent-related factors shape digital parenting primarily through moral interpretation: parents evaluate digital practices in light of their own ideas about care, responsibility, and good parenting. Two dimensions appear particularly central in parents' reasoning: their general orientation toward digital technologies and their understanding of parental responsibility (Table 8).

8. Table Parent-related factors shaping digital parenting (focus groups)

Parent-related factor	Related focus group quote
(1) Parents' orientation toward digitalization (resource vs. risk)	"I, for my part, take a critical view of the whole question of technological progress, and even of the notion of 'progress' itself. For me it's not so obvious that this is necessarily a good thing." (father, 51; daughter, 12)
(2) Generational position and the absence of role models	"I've told them that, let's be honest, we don't have a model for this – we didn't grow up like this. We're all trying to figure out how to do it well. I tell them we've tried to look into it as much as possible, and, based on that, we made a decision; they should accept it. But I also tell them I don't know what the consequences of this or that kind of upbringing will be – we just decided this is what gives us a sense of security." (mother, 40; daughter, 12; son, 14)
(3) Parents' own technology use and technological competence	"Obviously, we decided not to have it because we ourselves don't really use computers much. I'm sitting in front of a laptop right now, but otherwise this is what the whole family uses. So it never even occurred to him that he should be on the computer or watching TV all the time, because we don't use it either. I don't even know when people use these things, when they have time for it." (mother, 42; son, 14)
(4) Emotional orientation and principle-based restriction (fear vs. principles; restriction as protection)	"We don't have fears; we have principles we stick to. So right now, there's nothing to be afraid of because he's not using platforms where something serious could happen. Obviously, we decided this way because we're aware of the risks. My mother is a child psychologist, my father is an addiction specialist, and my husband is a teacher, so we're informed about addiction and related issues. We don't have fears; we have firm ideas that, as long as possible, there should be no smartphones. And now we see that he can regulate himself quite well." (mother, 42; son, 14) "I'm not worried he'll miss out. We believe he only benefits from this. His other abilities probably develop more intensively or receive more support than those of other children. He sits at the piano, he sings – I think that's better for his nervous system than tapping on a device. I don't have fears. The only thing I regret is English. I tell him, if you watch something, watch it in English. Even with films, we watch in English with subtitles. Because English isn't his strong suit, and I hear everywhere how much it adds." (mother, 42; son, 14)
(5) Sense of competence and parental responsibility	"A teacher once said that we are the ones who put the phone in the child's hand. If something goes wrong, or they don't use it as intended, we should remember that we initiated it. A child doesn't buy a phone at 12 or at 3. We bought it –

	maybe out of guilt, or because grandparents did, or because others already had one. This is our decision, not theirs. They're not the ones in control." (father, 51; daughter, 12)
(6) Uneven, gendered distribution of the burden	"I also said before that I don't know why it [trust in children's use of technology and no monitoring] works so well for me. But, now I figured out how: there is a responsible mother like you [the female focus group participants] in the background." (father, x; daughter, 13; daughter, 16)

A central parent-related factor is parents' broader *orientation toward digitalization* (1). Participants differed markedly in their approaches to digital technologies. Some viewed them primarily as resources that support everyday functioning, learning, and future competence. Others approached them more critically, framing the digital sphere as dangerous, overstimulating, and a loss of control. These orientations did not automatically produce more or less regulation. Rather, they shaped the logic through which regulation was justified. Parents appear to enter digital parenting with pre-existing beliefs about the benefits and risks of technology, shaped by their education, professional background, and social environment. In this sense, parents' digital parenting practices are often aligned with a broader conviction about what responsible parenting requires in the digital age.

This broader conviction is closely tied to parents' *generational position* (2). Many participants described themselves as having to make important decisions in a terrain for which they have no personal model. They did not grow up with these platforms, communication forms, or online risks, yet they are expected to guide children through them. This lack of lived precedent gives digital parenting a particular moral weight. It often turns ordinary decisions into questions of safety, responsibility, and self-doubt.

Parents' own *technology use and technological competence* (3) also shape how they position themselves in relation to digital parenting. Some participants described digital tools as deeply embedded in their work and daily routines. In such families, technology often appears as a normal part of everyday life. At the same time, even highly skilled parents often reported that their children are faster, more intuitive, or more up to date in some domains. This does not necessarily weaken parental authority, but it often changes its form. Parents with stronger digital competence more often spoke about trying to keep up, understanding platforms from within, or guiding use through conversation rather than prohibition alone. By contrast, some

parents used their own limited or selective use of technology as a justification for delaying or restricting children's access.

Parent-related factors also have a *cognitive and emotional dimension* (4), and here the discussions revealed two contrasting orientations. For some parents, digital parenting was coloured by concern, uncertainty, frustration, and vigilance, which surfaced most clearly around monitoring and the fear of losing control. Others spoke less in terms of fear than of principles: their confidence came not from any certainty about the future but from holding a stable normative position, and they framed their decisions as the product of reflection and value-based consistency rather than anxiety. This principled orientation was most visible in how parents approached restriction. Those who postponed smartphone access did not present it as deprivation but as protection and as support for other forms of development; and even when they acknowledged particular disadvantages, such as weaker exposure to English, they still regarded delayed access as the better choice.

This emotional and normative dimension is closely linked to parents' *sense of competence and responsibility* (5). Several participants spoke in a way that suggested a strong moral claim over digital decisions. If the child uses a smartphone, the parent is responsible for enabling it. In such accounts, control is not framed as domination, but as the consequence of parental accountability.

The focus groups also suggest that the emotional and practical *burden of digital parenting is not distributed evenly between mothers and fathers* (6). Mothers often described fathers as more relaxed, and sometimes welcomed this as a counterbalance to their own stronger concerns. At the same time, the participant fathers generally expressed less uncertainty and appeared more relaxed in their accounts, while mothers more often articulated concern, vigilance, and the burden of ongoing attention. At the same time, this difference does not appear to be purely gender-based in a simple attitudinal sense. It is also shaped by who is more present in everyday family routines, who spends more time at home, and who carries the practical and emotional work of regulation. Importantly, one father explicitly reflected that his own calmness partly depended on his ex-wife's greater attentiveness and more active monitoring of their children's technology use. This suggests that paternal confidence may, in some cases, rest on an unequal distribution of digital parenting labor rather than on a fundamentally lower level of concern.

Overall, the focus group material suggests that parent-related factors shape digital parenting

above all through interpretation. Parents bring their own convictions, experiences, emotional orientations, and ideas about care, trust, and responsibility into the digital sphere. Through these, digital parenting becomes a field of ongoing moral judgment, self-positioning, and adjustment.

6.3.2.2. The role of child-related factors in digital parenting

The focus group discussions suggest that child-related factors play a central role in shaping digital parenting. In parents' narratives, the child is not a passive object of regulation, but an active participant whose behavior, reactions, maturity, and developmental trajectory continuously reshape parental strategies (Table 9). At the same time, child-related factors rarely appear as fully autonomous explanations. More often, they function as the grounds on which parents justify why a certain child can be trusted, why another needs firmer limits, or why the same child may require different forms of guidance at different points in time.

9. Table Child-related factors shaping digital parenting (focus groups)

Child-related factor	Related focus group quote
(1) Age and developmental trajectory	"For example, with my own child I noticed – or saw – quite a major transformation over, let's say, five or six years: he himself was the one who changed preferences [from gaming] and later used the computer for something completely different." (mother, 51; daughter, 12)
(2) Children's technological competence	"I always feel that our children are much faster than we are and much better informed about these things. So if he wants to outwit me, he will." (mother, 51; daughter, 12)
(3) Personality, psychological characteristics, and self-regulation	"Somewhere it was good to hear your thoughts about trust, Péter, and I can say we would really like to trust, but our situation is special in that our son has ADHD, an attention disorder. He's incredibly smart, intelligent, and a very good student, and he largely compensates for this, so you don't see it in many ways. But the internet and the computer world pull him in much more. And I can say – and it's not just me, professionals have confirmed it – that it's much more dangerous for them, a hundred times more so, as if they grabbed everything with a thousand tentacles and they're hypersensitive. For him, there's a real risk. For a long time, we tried not to forbid it, but to explain intelligently why we're trying to protect him." (mother, 50; daughter, 13; son, 15)
(4) The dual evaluation of technology as	"She's 12 now and speaks English fluently... she soaked it up from the internet, so we're at the point where it's pointless for her to go to English class, her tests are all

harmful and beneficial	flawless, she wins the competitions.” (mother, 51; daughter, 12) “If I had to put it in one word, it’s stimulus-dependency that I’m a little afraid of.” (mother, 47; son, 14; daughter, 16)
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Age clearly matters in these discussions, but parents do not treat chronological age as a sufficient guide in itself. Rather, they interpret age in terms of *developmental readiness* (1). Across all groups, early adolescence – especially roughly the ages of 11 to 13 – was described as a particularly sensitive and transitional period. At this stage, direct regulation, technical monitoring, and explicit parental guidance are still widely seen as legitimate. Later adolescence, by contrast, is more often framed as a period in which autonomy claims intensify and direct parental control becomes harder to justify. A child may be considered “old enough” in formal terms, yet still be seen as unprepared for certain platforms, forms of communication, or digitally mediated risks. Conversely, some parents describe younger adolescents as relatively reflective or self-limiting, and therefore as capable of handling more responsibility than might be expected based on age alone.

Parents also emphasized that children’s relationship to technology changes over time and often in non-linear ways. Several described periods of intensive gaming or heavy online involvement that later declined as children’s interests, school demands, or social priorities shifted. This experience often made parents more cautious about immediate or overly forceful intervention. It encouraged a view of digital parenting as something that must follow the child’s developmental trajectory rather than imposing a fixed model at a single point in time. This developmental perspective affects all three digital parenting practices. Monitoring is often more intensive with younger adolescents, but tends to recede as children grow older and trust-based arrangements become more appropriate. Co-use is also more common with younger children, while older adolescents more often reject parental participation or require more negotiated forms of presence. Discussions about technology follow a similar pattern. With younger adolescents, parents often describe them as more didactic and explanatory; with older teenagers, they increasingly stress trust, tone, and relational quality over direct instruction. Across all three practices, then, age matters primarily through the ways it reorganizes the balance between protection and autonomy.

Children’s *technological competence* (2) forms another major child-related factor. Parents in

nearly every group described adolescents as confident, fast, and intuitive users of devices and platforms. This sometimes leads to reverse-learning situations, in which the child teaches the parent. In some families, this strengthens the relationship and provides insight into children's digital worlds. In others, it contributes to a sense that parental authority has become less secure. At the same time, parents consistently distinguish technical skill from reflective or responsible use. Children may be adept at navigating devices while still being seen as weak in source criticism, attention regulation, or risk recognition. This distinction is important because it often legitimizes continued parental involvement even when children are perceived as digitally competent.

How parents perceive their children's *personality, psychological characteristics, and self-regulation* (3) also play a major role in parental reasoning. Parents repeatedly distinguished between children who are seen as self-limiting and reflective and those described as more impulsive, reward-sensitive, or easily drawn into digital stimulation. In the latter cases, stronger concern and firmer regulation appeared more justified. This did not always reflect a moral judgment about the child. In many accounts, it was framed as a matter of temperament, vulnerability, or neuropsychological disposition.

The focus groups also indicate that parents *do not view digital technology as uniformly harmful or beneficial* (4) for children. Several noted that digital environments may support language learning, faster information processing, or practical digital skills. At the same time, they expressed strong concerns about overstimulation, fragmented attention, gaming addiction, and withdrawal from offline relationships. These two sides are not usually treated as mutually exclusive. Rather, they form part of the same evaluative way through which parents decide what kind of intervention a particular child needs.

To conclude, the focus group material suggests that child-related factors shape digital parenting through parents' broader judgments about readiness, vulnerability, competence, and self-regulation, rather than age alone. In this sense, children are not merely objects of parental regulation but active participants whose characteristics continuously reshape how digital parenting practices are enacted and justified.

6.3.2.3. *The role of contextual factors in digital parenting*

The focus group discussions suggest that digital parenting cannot be understood solely in terms of parents' attitudes or children's characteristics. Parental practices are also embedded in

broader social and institutional contexts that shape what parents consider possible, necessary, or legitimate. Contextual conditions also shape the frameworks through which parents interpret their responsibilities and evaluate their own decisions (Table 10).

10. Table Contextual factors shaping digital parenting (focus groups)

Contextual factor	Related focus group quote
(1) The school environment and institutional structuring	“Because of Kréta [the school’s online register] they had to use the computer an awful lot. And it has stayed that way to this day, for them, computer use is tied to school. So they only use it for studying.” (mother, 43; daughter, 12; daughter, 14) “At school he's not allowed to use it, they asked that the children not bring phones in. And generally we're in the same boat, because at the school they ask that, if possible, children not use screens much until upper secondary, so no computers either.” (father, 58; daughter, 13) “The school really helped us a lot, because there were these dedicated classes, drama, theatre groups where they could talk this through, and who drew attention to it.” (mother, 46; daughter, 15)
(2) The COVID-19 pandemic as temporal context	“They were in first grade in 2020 when COVID hit, so from then on there was hardly any way to avoid the digital space... the whole second semester was about receiving everything and sending everything digitally. So there was no chance of not using it.” (mother, 54; son, 13)
(3) Family size and sibling dynamics	“There’s quite a big age gap between them, and from early childhood, she saw how the older sibling kind of disappeared, withdrew, got pulled into the phone. She remembers that. And I think she verbalizes it too; she says, “Yes, I don’t want to be like that.” And sometimes we remind her – do you remember what it was like when you felt your sister distancing herself from where we were together? And then she says, yes, yes.” (father, 51; daughter, 12)
(4) Occupational and social embeddedness of parental knowledge	“I’m an IT professional, so at home things to do with computing are a bit simpler for us... I do have a positional advantage. I’m more likely to know what they don’t.” (father, x; daughter, 13; daughter, 16)
(5) Social networks and the shared generational challenge	“Confident – definitely not, because I can’t know what will become of children who grow up like this. But we talk a lot with other parents in a similar situation, which helps a lot. They think similarly to us, but their children are one or two years older, and you can get good ideas from them. That definitely helps me. And, of course, I looked things up and attended a few lectures as well. There’s one by Rita Pécsi that

	was really good – very experiential.” (mother, 40; daughter, 12; son, 14)
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Stepping away from family environment, one of the most frequently mentioned contextual influences is the *school environment* (1). Parents repeatedly emphasized that schools actively structure children’s technology use. Online homework systems, digital communication channels, and messaging groups often make device use unavoidable. In such situations, introducing digital devices is not framed as a deliberate parenting decision but as a response to institutional expectations. At the same time, schools that maintain clear rules about digital devices are often experienced as supportive. Regulations such as smartphone bans or clearly defined school guidelines provide parents with a point of reference. Several participants described such rules as relieving some of the pressure associated with digital parenting. In this sense, the school not only regulates children’s technology use but also indirectly shapes parental responsibility by providing an external framework within which parents can position their own practices.

The situation generated by the emergence of *the COVID-19 pandemic* (2) is partly related to the school and educational factor, which emerged in the focus groups as an important temporal context. Several parents explained that the introduction of laptops, messaging applications, and other digital tools accelerated during the period of online schooling. At that time, many of their children were still relatively young. This period, therefore, normalized certain forms of device use earlier than parents might otherwise have planned. In this sense, the pandemic did not simply increase screen time temporarily, but it reshaped the timing and perceived necessity of digital technologies in family life.

Family size and sibling dynamics (3) further complicate digital parenting practices. In families with several children, parents must distribute attention, time, and emotional resources across multiple siblings. This often makes practices such as co-use or repeated in-depth conversations more difficult to sustain. At the same time, siblings themselves become part of the dynamics of digital parenting. Older children may function as role models, but they may also serve as cautionary examples for younger siblings. Parents also mentioned that access to devices sometimes spreads through sibling dynamics rather than through deliberate parental planning.

As discussed in the previous section, parents frequently referred to their own *knowledge, professional background, or personal experience* (4) when explaining their attitudes toward

digital technologies and children's technology use. However, these beliefs and forms of knowledge are themselves embedded in wider contextual conditions. Parents' occupations, the technological demands of their work, and the extent to which their work is organized around digital tools all shape their familiarity with digital environments and their evaluation of risks and opportunities. Similar influences may also stem from the work and expertise of partners, grandparents, or other close family members whose professional knowledge circulates within everyday family discussions. In this sense, the convictions that guide digital parenting decisions are rarely purely individual. Rather, they are partly rooted in the occupational and social environments in which families are embedded.

The focus group setting itself also revealed a strong sense of *shared experience* (5) among parents. Participants often reacted to one another's accounts with recognition and empathy rather than disagreement. This suggests that digital parenting is not experienced only as an individual family matter. Instead, it appears as a shared generational challenge, with parents collectively seeking workable solutions and reassurance. Many participants described digital parenting as something they navigate collectively with other parents. Parents often mentioned conversations with parents of slightly older children, school communities, expert lectures, and online information sources as important reference points. These exchanges help parents interpret new situations and shape their understanding of risks and appropriate responses.

Overall, contextual factors shape digital parenting both by constraining what families can realistically do and by influencing the standards through which parents judge whether they are acting responsibly. For this reason, digital parenting appears not as a set of isolated household decisions but as a family practice embedded in institutional expectations, time structures, social networks, and broader historical change.

6.3.3. Summary of focus group findings

The focus group discussions suggest that digital parenting is best understood as an emotionally charged and continuously negotiated domain of parental work shaped by the interplay of parental, child-related, and contextual factors. Across groups, digitalization is framed as unavoidable, yet parents position themselves very differently toward it. These differences do not translate mechanically into more or less regulation; rather, they shape how monitoring, co-use, and parent-child conversations are justified, interpreted, and bounded. A specific added value of the focus group method lies in showing how parents collectively negotiate the meanings of their practices. The discussions made visible how parents justify, relativize, and

morally frame digital parenting in interaction with one another. This interactive setting also highlighted that differences between parents often concern not the presence or absence of particular practices, but the justificatory logics, emotional orientations, and normative assumptions through which those practices are interpreted.

At the level of the parental subsystem, parents' own technological experiences, value orientations, and conceptions of "good parenting" provide the primary interpretive frame through which digital practices are organized. A fundamental divide runs between those who view technology primarily as a resource (supporting learning, language acquisition, competence development, and everyday efficiency) and those who foreground its risks (addiction, overstimulation, fragmented attention, and detachment from "real" relationships). This stance does not determine whether parents monitor, engage in co-use, or initiate conversations; rather, it shapes the logic through which these practices are legitimized. When technology is framed as a resource, monitoring is often described as a pragmatic complement to trust – screen-time limits or parental control settings appear as reasonable boundary-setting tools within an otherwise supportive environment. When technology is approached more critically, monitoring is more explicitly embedded in a moral dilemma centered on the tension between control and autonomy. Similarly, co-use may be framed either as an opportunity for connection and insight into children's digital worlds, or as a questionable form of "quality time" that competes with valued offline interaction. Conversations about technology, meanwhile, are frequently presented as evidence of responsible parenting – especially where direct surveillance is seen as problematic. Across practices, the parental subsystem is marked by ambivalence, uncertainty, and a strong sense of moral responsibility. These orientations were also not expressed in gender-neutral ways. Mothers more often articulated that their partners are calmer, and fathers articulated less uncertainty. However, the focus group discussions suggest that this apparent difference may partly reflect the unequal distribution of attention and monitoring work within families. Finally, parents repeatedly underlined that they lack intergenerational templates; they describe themselves as a "first generation" navigating unfamiliar terrain. In this context, digital parenting becomes less a technical matter than a moral project structured by the trust-control tension and the balancing of protection and autonomy.

Within the child-related subsystem, age, developmental stage, personality, and digital competence play a decisive role in shaping the enactment of parental intentions. Parents think in terms of turning points: early adolescence (roughly 11-13) is widely described as a particularly vulnerable period in which direct regulation and technical monitoring tools remain

legitimate. With increasing age, however, overt control becomes harder to justify, and monitoring is gradually reframed as trust-based oversight or negotiated boundary-setting. This developmental logic also structures conversations: with younger adolescents, discussions are often more didactic, whereas with older teenagers, parents stress the primacy of mutual trust and relational quality over direct instruction. Co-use likewise tends to decline as autonomy claims strengthen, unless children themselves actively invite parental participation. Children's technological competence further complicates these dynamics. Parents frequently describe themselves as "lagging behind," while portraying children as fast and intuitive users. Yet technical skill is not equated with responsible use; perceived gaps in risk awareness often serve to legitimize continued parental involvement, even in later adolescence. Personality and psychological traits also matter. Parents distinguish between children who are seen as self-regulating and reflective, and those described as more impulsive, reward-sensitive, or neuropsychologically vulnerable (e.g., ADHD). In the latter cases, stronger monitoring or protective framing is more readily justified. Children thus emerge not merely as objects of parental practice but as active participants whose behavior, reactions, and developmental trajectories continually reshape the form and intensity of monitoring, co-use, and conversation.

The contextual subsystem further conditions what is feasible and legitimate in everyday life. Institutional environments, especially schools, exert substantial influence. Where digital communication platforms or online learning requirements are imposed, device use often results less from parental conviction than from external necessity. Conversely, explicit school regulations (e.g., smartphone bans) provide orientation and may relieve parents of part of the moral burden of decision-making. Family time structures and workload also shape practice. Monitoring may function either as a labor-saving automatism (through automated controls that reduce conflict) or as an additional source of strain in already overburdened households. Co-use often depends on overlapping schedules, shared interests, and time availability; in larger families, differentiated strategies among siblings are common, and parental attention must be distributed unevenly. Conversations, too, are constrained by everyday pressures: while normatively elevated, they require mental capacity and temporal availability that are not always present. Broader generational and cultural conditions – rapid technological change, the absence of stable models, and reliance on peer-parent networks or expert talks – reinforce the sense that digital parenting unfolds within a structurally uncertain environment. In this sense, parental practices are responses to institutional expectations, temporal constraints, and socially circulating norms.

Across these subsystems, the focus group data also revealed three cross-cutting tensions in parents' reasoning: between viewing technology as a resource and as a risk, between control and trust, and between what parents saw as desirable and what their material and temporal resources allowed. These tensions are developed analytically in the discussion (Chapter 7.4); within the focus groups themselves, they did not give rise to sharp conflict. Empathy and shared uncertainty dominated instead. Parents articulated divergent strategies, yet a strong sense of collective predicament emerged: all were attempting to make "good" decisions in a rapidly changing domain with few stable reference points. The most frequently invoked anchor was not technical expertise or perfect regulation, but trust in the parent-child relationship and the sustaining force of affection. The ambivalence documented here is unlikely to disappear; it may, in fact, be constitutive of digital parenting itself.

The focus group findings, therefore, deepen the interpretation of digital parenting by showing how everyday practices are embedded in broader moral, developmental, and contextual considerations. The following chapter builds on these findings by relating them to the quantitative results, other qualitative results, and the broader literature discussed earlier in the dissertation.

7. Discussion

The discussion integrates the quantitative and qualitative findings within Belsky's (1984) framework, reading them as complementary rather than comparable: the 2017 survey identifies population-level associations, while the interviews and focus groups explain the mechanisms behind them and how they are interpreted and enacted in the settings of 2019 and the present. Throughout, the analysis proceeds from the standpoint of parents, consistent with the study's focus on parental practices and interpretations; the child appears in the findings as perceived and acted upon by parents, and the relational dynamics of digital parenting are read from that vantage point.

7.1. Parent-related factors shaping digital parenting

Belsky's (1984) process model conceptualizes parenting as a multidetermined process shaped by the interaction of parental characteristics, child attributes, and contextual sources of stress and support. Within this framework, the parental subsystem includes factors such as parents' personality, psychological well-being, developmental history, attitudes, and competencies, which shape how parents interpret and respond to the demands of parenting. Importantly, these determinants do not operate independently: parental characteristics influence how contextual conditions are experienced and how children's behaviors are interpreted, while parenting practices may, in turn, reshape parents' perceptions, routines, and resources over time.

The findings of this dissertation suggest that digital parenting practices are strongly shaped by characteristics of this parental subsystem. Both quantitative and qualitative results indicate that monitoring adolescents' technology use, discussing digital media with children, or the co-use of digital devices are closely linked to parent-related factors, including age, educational background, subjective parenting quality, digital competence, and attitudes toward technology. At the same time, qualitative findings highlight that digital parenting often involves continuous mental and organizational work embedded in the everyday coordination of family life. Parents described monitoring and regulating technology use as practices requiring continuous attention, reflection, and adjustment. These practices also appeared emotionally and morally charged, as parents associated them with expectations of responsible parenthood and with the need to balance supervision with respect for adolescents' autonomy. Similar dynamics have been identified in recent research showing how digital technologies intensify the cognitive and logistical demands of parenting and reinforce parents' roles as coordinators of children's everyday digital lives (Alvarez, 2025). Such expectations may remain partly obscured by the

gender-neutral framing of digital parenting research, even though the everyday work of managing children's digital environments often reflects broader patterns of care work (Heaselgrave, 2025). This experience of monitoring as effortful, reflective, and morally weighted is characteristic of what has been described as intensive parenting: a cultural model in which good parenting is defined as child-centered, expert-guided, and highly labor-intensive (Hays, 1996; Lee et al., 2023). Read in these terms, the everyday management of children's digital lives is not merely a technical task but an expression of a broader expectation that responsible parents actively cultivate and safeguard their children's development.

Parents' perceptions of their own parenting competence emerged as a particularly important dimension of the parental subsystem. Quantitative results showed that subjective parental quality is positively associated with monitoring and negatively associated with parent-child digital co-play. While earlier research rarely examines subjective parental quality directly, studies on parenting styles suggest that parents' perceived competence and authority influence the digital parenting strategies they adopt (Zhao et al., 2023). Qualitative findings help contextualize this pattern. Monitoring appeared as a mentally demanding and morally charged (protection vs. autonomy) practice that parents felt obliged to perform as part of responsible parenting. Parents described continuously reflecting on and adjusting their strategies as children grow older. These accounts highlight how parental beliefs, normative expectations, and emotional commitments shape the everyday enactment of digital parenting.

By contrast, parent-child co-use of digital technologies appeared less embedded in parents' perceived responsibilities. Focus group discussions suggested that shared digital activities were typically framed as leisure or relational bonding rather than as part of deliberate digital parenting strategies. Some parents even expressed reservations about shared digital activities when these replaced other forms of family interaction. Previous research similarly shows that digital co-use often depends on parents' familiarity with digital media and may therefore be associated with specific forms of activity-based parent-child engagement (Nikken & Jansz, 2006). From a socio-ecological perspective, this pattern illustrates how parents' competencies, experiences, and interests shape the forms of interaction they engage in with their children.

Although quantitative analyses did not show a significant relationship between subjective parental quality and discussions about technology use, qualitative findings suggested that, from parents' perspective, discussions with children were perceived as the most acceptable form of involvement in adolescents' digital lives. Parents generally described talking about technology

as beneficial and an essential part of responsible parenting. At the same time, these conversations often appeared reactive and focused on potential risks rather than on collaborative exploration of digital environments. Previous research points in a similar direction, showing that although communication about media use is normatively emphasized, it is frequently limited in scope and often occurs mainly in response to perceived problems rather than as part of ongoing dialogue (Corcoran et al., 2022).

Time constraints also emerged as an important factor shaping digital parenting practices. According to the qualitative results, parents describe supervising technology use as one responsibility among many competing everyday tasks. This observation aligns with Hungarian research highlighting that digital media use is embedded within broader family routines and organizational patterns of everyday life (Bernhardt, 2025). Interpreted through Belsky's framework, such pressures represent contextual constraints that influence how parental characteristics translate into everyday parenting practices. Despite international empirical results (e.g., Dedkova & Smahel, 2020; Duek & Moguillansky, 2020), parental gender did not emerge as a significant predictor in the quantitative analysis. Qualitative accounts, however, often suggested an uneven distribution of cognitive and organizational responsibilities for managing children's technology use. Several mothers described fathers as adopting a more relaxed approach and being less involved in supervising technology use. This pattern resonates with previous research documenting gendered divisions of digital parenting responsibilities (e.g., Dedkova & Smahel, 2020; Heaselgrave, 2025). That mothers more often carried the anticipatory and organizational side of this work is consistent with research on the cognitive or "mental" load of parenting, in which the planning, monitoring, and worrying involved in child-rearing fall disproportionately on women and often remain invisible (Damingler, 2019; Ciciolla & Luthar, 2019; Dean et al., 2022). Digital parenting appears to extend this gendered division of care work into a new domain.

Parental age also influenced digital parenting practices. The quantitative results indicate that younger parents are more likely to engage in monitoring and shared digital activities. These findings align with previous research suggesting that younger parents are more familiar with digital environments and therefore more actively involved in children's digital lives (Livingstone et al., 2017; Shin & Huh, 2011; Sonck et al., 2013; Talves & Kalmus, 2015). The qualitative findings further indicate that many parents see themselves as doing digital parenting without established role models, often learning to manage their own technology use while raising children amid fast-changing technology.

Educational background and digital competence also played a significant role. Quantitative results showed that higher parental education is associated with more frequent discussions about technology use, consistent with previous research linking educational attainment to more active digital parenting strategies (Kutrovátz et al., 2018; Larrañaga, 2015; Lou et al., 2024; Üstündağ-Alkan et al., 2021). Hungarian studies similarly indicate that higher education is associated with a stronger perception of risks (Konok et al., 2020) and with more complex, multi-strategy digital parenting practices (NMHH, 2025). Qualitative findings further suggest that parents' digital competence shapes their confidence in engaging in digital parenting. Parents who perceived themselves as technologically knowledgeable often felt better equipped to guide their children's online activities, echoing previous findings that technological competence increases parents' perceived supervisory capacity (Bartau-Rojas, 2018; Zhao et al., 2023) and the likelihood of using technological tools to monitor the child's digital activity (Ghosh et al., 2018).

Parents' own media habits and technological openness may further shape how digital risks and opportunities are interpreted within family life (Lauricella & Cingel, 2020). According to qualitative findings, parents' broader perspectives on digitalization also influenced their approaches to digital parenting. Parents often expressed ambivalent attitudes toward digital technologies, simultaneously acknowledging their benefits while voicing concerns about excessive use and potential risks. This ambivalence mirrors findings from Hungarian studies showing that parental attitudes toward children's technology use typically combine trust, concern, and pragmatic acceptance (Bodó, 2017) and align with international research emphasizing the importance of parental attitudes and self-regulation in shaping digital parenting practices (Keuhlen et al., 2020).

The findings suggest that parent-related factors influence digital parenting through parents' resources, attitudes, and everyday experiences of responsibility within family life. Decisions about adolescents' technology use often require constant evaluation, coordination, and emotional effort, especially when expectations are unclear or contradictory. In this sense, digital parenting appears as part of the broader intensification of contemporary parenting, in which parents feel personally responsible for managing risks and supporting their children's future success (Hays, 1996; Lee et al., 2023). This sense of personal responsibility reflects a wider individualization of risk, in which the management of uncertain, socially produced dangers is devolved onto parents as reflexive individuals (Beck, 1992). Within the logic of parental determinism, parents are held accountable for outcomes presumed to follow from their choices (Lee et al., 2023), which helps explain why decisions about technology use are experienced as

consequential and morally exposed. Rather than applying fixed strategies, parents continuously adjust their practices to changing circumstances, which makes digital parenting an ongoing form of mental and organizational work. In line with Belsky's (1984) socio-ecological framework, digital parenting can therefore be understood as part of the broader ways parents adapt to changing technology and shifting expectations of contemporary parenthood.

7.2. Child-related factors shaping digital parenting

According to Belsky's (1984) process model, children's characteristics play an active role in shaping parental functioning. Parenting practices do not arise solely from parental dispositions or contextual conditions; rather, they develop through continuous interaction between parents and children. Within this framework, children's attributes – including temperament, behavioral traits, developmental maturity, individual needs, and gender – influence how parents interpret situations and adjust their parenting strategies. From this perspective, digital parenting practices can be understood as partly emerging in response to children's developmental trajectories and everyday behaviors.

The quantitative results show that children's age is negatively associated with the likelihood of parental monitoring, parent-child digital co-play, and discussions about technology use. The qualitative findings provide important context for this pattern. Parents rarely treated chronological age as the main determinant of digital parenting practices. Instead, they more often referred to children's developmental maturity. In particular, they mentioned children's capacity for self-control, their ability to recognize potential risks, their willingness to ask questions and engage in dialogue, and the extent to which they were going through more resistant phases of adolescence. These characteristics often shaped parents' decisions about whether monitoring was necessary, whether conversations about technology use could be meaningfully initiated, and whether children were open to shared digital activities, including simple practices such as watching films together. Hungarian research similarly indicates that direct monitoring and explicit rules tend to decline as children grow older, and that parental involvement gradually shifts from direct control toward trust-based communication and indirect forms of supervision during adolescence (Székely, 2010; Bodó, 2017; NMHH, 2025). At the same time, recent scholarship suggests that chronological age alone is an insufficient indicator of adolescents' digital competence, as developmental maturity and contextual factors also shape young people's ability to navigate digital environments (Livingstone & Sylwander, 2025). From the perspective of Belsky's model (1984), this pattern illustrates how children's

developmental characteristics influence parental perceptions of risk and autonomy, thereby shaping the intensity and form of digital parenting practices.

Academic performance also emerged as an important factor shaping digital parenting. The quantitative analysis showed that children with higher end-of-year grades are significantly more likely to be monitored by their parents. Qualitative findings help to interpret this relationship. In interviews and focus groups, parents often expressed the view that stricter regulation becomes necessary primarily when school performance deteriorates. Several respondents explicitly stated that maintaining acceptable academic results is the main benchmark for judging whether their current digital parenting practices are adequate. Previous research similarly indicates that parents often link device access and media use to academic responsibilities, structuring digital use around homework completion and school performance (Korie, 2025). Interpreted through the lens of parenting as investment, this benchmarking of digital rules against school performance reflects a concern with protecting the child's educational trajectory and future prospects. The pattern echoes the logic of concerted cultivation, in which parents actively organize and supervise children's activities to secure developmental and competitive advantage (Lareau, 2002; Doepke et al., 2019). In this sense, children's academic trajectories may signal when closer supervision or regulation is perceived as necessary. This pattern also reflects the feedback mechanism described by Belsky (1984), whereby children's developmental outcomes and behavioral signals influence how parents adjust their regulatory strategies.

Although gender did not emerge as a statistically significant predictor in the quantitative models, qualitative accounts suggest that parents nevertheless interpret digital risks through gendered expectations. According to the interview and focus group results, parents are more likely to associate boys' technology use with computer gaming and exposure to violent or pornographic content, whereas concerns related to daughters focus more strongly on social media use, privacy, and possible contact with strangers. These perceptions also shaped how feasible parents considered monitoring to be. Gaming typically takes place at home and is relatively place-bound, making it easier to supervise through simple observation. In contrast, social media use on mobile devices may occur in more private contexts, making it harder to monitor without violating adolescents' privacy. This pattern is consistent with previous research showing that parental mediation strategies often reflect broader cultural assumptions about gendered vulnerability and appropriate online behavior (Baldry et al., 2019; Livingstone et al., 2014; Talves & Kalmus, 2015). Hungarian empirical findings report that restrictions are

applied more frequently to boys than to girls (Székely, 2010).

The qualitative findings also highlighted the importance of children's temperament, personality, and general orientation toward social interaction and extracurricular activities. Parents often perceived these characteristics as shaping children's relationship to digital technologies, including how frequently they use devices and for what purposes. Such perceptions also influenced how parents evaluated potential risks, including concerns about addiction, weakened social relationships, or negative effects on sleep and well-being. These results suggest that parental mediation strategies are often calibrated to children's perceived vulnerabilities and competencies. Previous research likewise indicates that parents adjust digital parenting practices to children's temperament and demonstrated digital skills (Livingstone & Blum-Ross, 2020), and that risk-related behaviors, such as intensive internet use or online victimization, may trigger increased monitoring (Ghosh et al., 2018). Hungarian studies also indicate that parental concerns about online risks and the possible negative effects of digital media often shape how parents interpret and manage children's technology use, with regulation frequently framed as a response to perceived dangers (Bodó, 2017; NMHH, 2025).

Another child-related factor emerging from the qualitative data concerns how children structure their everyday activities outside school. Many parents reported deliberately organizing extracurricular activities, sports training, or other structured programs in order to reduce the amount of unstructured time children might otherwise spend in front of screens. These activities served not only as developmental opportunities but also as a source of reassurance for parents. Several respondents noted that ensuring children participate in diverse offline activities contributed to their sense of fulfilling parental responsibilities and supported a more positive evaluation of their own parenting. Hungarian research further suggests that structured family routines and offline activities remain important elements of everyday family life, which may help balance the intensive presence of digital media in children's daily routines (Bernhardt, 2025; NMHH, 2025). Structuring children's time around organized activities can itself be read as a form of investment parenting, in which enrichment and supervision are used to displace unstructured screen time and to reassure parents that they are meeting their responsibilities (Lareau, 2002; Vincent & Ball, 2007). The relief parents described when children were occupied offline suggests that these practices also help to manage parental guilt about digital exposure. In this sense, encouraging alternative activities may itself be understood as an indirect form of digital parenting, as parents seek to influence media use by structuring children's time around substitute activities. In Belsky's (1984) terms, these practices illustrate how parents

respond to perceived child characteristics by reshaping the child's everyday environment in ways that indirectly regulate digital media use.

Overall, the results highlight that digital parenting is strongly shaped by children's developmental characteristics. Parents do not apply uniform rules but continuously adapt their practices to children's maturity, behavior, and everyday activities. Monitoring, discussions, and shared technology use change as adolescents seek greater autonomy and as parents renegotiate their role. From a socio-ecological perspective, this confirms that parenting practices emerge through interaction rather than unilateral control. Digital parenting in adolescence, therefore, reflects a continuing mechanism of adjustment, in which parental decisions are shaped by children's developmental trajectories as much as by parental intentions.

A deliberate feature of this study is that it approaches digital parenting from the parents' standpoint. This focus follows directly from the research question, which concerns parental practices and their interpretations, and from Belsky's (1984) model, which explains parenting behavior in terms of how parents perceive and respond to their circumstances, including the child's characteristics. Within this framework, child-related factors enter the analysis as parents read and act on them: what matters for parenting practice is not the child's attributes in the abstract but the parent's interpretation of the child's maturity, competence, vulnerability, and needs. The findings show that parents do not treat the child as a passive object of regulation; their accounts are full of the child's agency, resistance, and influence, so that the parent-child relationship appears in the data as a negotiated one, seen from the parental side. This standpoint is an analytical strength for the questions posed here, but it also has a clear boundary: it captures how parents perceive their children's technology use, not how adolescents themselves experience being parented. Where the two diverge, for instance around monitoring or restriction, this study can register the parental account but not the adolescent's. Bringing the two perspectives together is therefore a natural next step: a multi-informant design pairing parents' and adolescents' accounts would show where parental intentions and adolescent experiences align and where they part company, deepening the relational understanding of digital parenting that these findings begin to trace.

7.3. Contextual factors shaping digital parenting

Within Belsky's (1984) process model, parenting is embedded in a broader contextual subsystem comprising social, economic, and institutional environments that may support or constrain parental functioning. These conditions involve family structure, the division of roles

within the household, the quality of partner relationships, social networks, employment conditions, socioeconomic position, and prevailing social expectations and norms. In Belsky's framework, contextual factors influence parenting both directly and indirectly by shaping parents' available resources, stress levels, and opportunities to be involved in children's everyday lives. Research on adolescents' digital environments similarly shows that outcomes are not determined solely within the family but are also shaped by institutional settings such as schools. Digital parenting, therefore, cannot be understood in isolation from broader developmental contexts (Chemnad et al., 2023). Understood through the nested levels of Bronfenbrenner's ecological model (see Chapter 2.1.1), these contextual conditions operate at some remove from the family yet reach into it: exosystem settings in which the child does not directly participate, such as parents' workplaces and the policies of the child's school, and macrosystem-level norms, such as the prevailing culture of intensive parenting and public and regulatory discourse about children's digital lives, set the terms within which individual parents make concrete decisions about monitoring, conversation, and shared use.

One important contextual domain concerns parents' labor market position and the resources associated with it. The quantitative models indicate that parents working in white-collar occupations or operating as entrepreneurs are more likely to monitor their adolescent children's technology use than parents employed in blue-collar jobs. At the same time, occupational status does not significantly affect the likelihood of co-play or technology-related discussions. Qualitative findings help explain this pattern. Parents' work conditions shape digital parenting in several ways: through the time and energy available for family life, the nature of professional responsibilities, and the knowledge and competencies acquired through work. From a socio-ecological perspective, occupational differences may influence digital parenting indirectly through unequal access to resources and digital capital. Previous research similarly shows that socioeconomic position and digital skills affect parents' perceived ability to guide and supervise children's online activities, linking structural resources to digital parenting through mechanisms such as self-efficacy and technological familiarity (Addi-Raccah, 2024; Zhao et al., 2023). Work environments may also contribute to the accumulation of digital cultural capital, which shapes how parents interpret technology (Ollier-Malaterre et al., 2019) and engage with their children's digital lives. Hungarian findings likewise indicate that socioeconomic and educational differences are reflected in parental attitudes toward children's technology use and in the extent of children's screen time, suggesting that digital parenting practices are embedded in broader social inequalities (Konok et al., 2020; NMHH, 2025). These class-patterned

differences resonate with accounts of parenting as a socially stratified investment, in which higher-resource families deploy their economic and cultural capital to cultivate advantage, at times in ways that consolidate existing inequalities (Lareau, 2002; Vincent & Ball, 2007; Hamilton et al., 2018). Digital parenting thus becomes one more arena in which unequal resources translate into unequal capacities to guide children's development.

Closely related to employment conditions is parents' subjective experience of balancing work and family life. The quantitative results show that perceived work–life balance is positively associated with monitoring, co-play, and technology-related discussions. The more balanced parents perceive these domains to be, the more likely they are to engage in digital parenting practices. At the same time, perceived overload shows a different pattern. Parents who feel overloaded are more likely to monitor their children's technology use but less likely to engage in co-play. Within Belsky's framework, these results illustrate how contextual stressors and supports can shape parenting in different ways. Previous research similarly suggests that parental availability and everyday involvement influence mediation practices. Time spent with children increases the likelihood of shared media use (Connell et al., 2015), whereas work–family conflict may reduce involvement indirectly by lowering parental engagement (Li & Dou, 2020). Parenting stress may also weaken parents' ability to regulate children's media use in line with their own beliefs (Griffith, 2023). Hungarian studies likewise show that managing children's technology use is often part of everyday family coordination (NMHH, 2025; Bernhardt, 2025), which must be balanced with work, household responsibilities, and children's offline activities. Although work–life balance and overload may seem contradictory, the findings suggest that they operate through different mechanisms. Monitoring signals concern and attention; constantly managing children's digital lives is itself a source of everyday strain. This interpretation is consistent with earlier qualitative results describing digital parenting as continuous mental and organizational work embedded in daily routines.

Family structure represents another contextual dimension shaping digital parenting. The quantitative results show that when more than one minor child lives in the household, the likelihood of parent–child digital co-play decreases, whereas monitoring and technology-related discussions remain unaffected. Qualitative findings suggest that family structure mainly influences digital parenting through sibling dynamics and the distribution of parental attention. Parents described both positive and negative forms of mutual influence between siblings, and they often emphasized that digital parenting practices are individualized. Within the same family, different children may be subject to different rules depending on their characteristics

and needs. Previous studies also report mixed results regarding family size. Some suggest that larger families dilute parental oversight (Adigwe, 2021; Livingstone et al., 2015), whereas others find that parents in larger households may rely more on restrictive strategies (Sonck et al., 2013). Overall, these findings suggest that household size does not determine digital parenting directly but interacts with time constraints, relational dynamics, and available resources (Fidan & Olur, 2023).

Institutional environments also emerged as an important contextual influence in the qualitative data. Although not included in the quantitative models, parents frequently cited schools as important sources of guidance on adolescents' technology use. School norms and expectations often served as reference points, providing reassurance in uncertain situations. According to focus group participants, religious and alternative schools in particular sometimes articulated stronger positions on technology use, which extended beyond the school setting and influenced family practices as well. These positions could take the form of explicit recommendations on device ownership, digital activities, or delayed access to screens. Even when parents expressed some criticism, many still found such guidelines helpful because they reduced the burden of individual decision-making.

The mechanism can operate in two opposite directions. When schools route homework, grades, and communication through digital platforms, using a device at home ceases to be a discretionary parental choice and becomes a practical necessity. In this situation, a parent who might otherwise have delayed access may grant it, and then reorganize monitoring around a device that has become indispensable for school. Where the school takes a restrictive stance through a phone ban or a pedagogical ethos that delays screens, the effect is reversed, but the mechanism is similar. The institution removes a decision the parent would otherwise have to make and enforce alone, so that limiting device use no longer appears simply as an individual act of parental control, but as compliance with an external rule. Several parents described this as a relief. In the Hungarian context, the recent regulation restricting personal devices in schools (Government Decree 245/2024) can be read in the same light: it relocates part of the decision about children's device use from the family to the institution, even as implementation varies across schools (Pozsonyi et al., 2025).

This observation is consistent with research showing that institutional ideologies and school cultures can strongly shape family-level digital practices. Studies of Waldorf education, for example, demonstrate how pedagogical principles may structure parental mediation strategies

and normalize delayed access to digital media (Molnár, 2023). Hungarian quantitative findings likewise show that schools play an important role in structuring children's technology use through digital learning platforms, communication channels, and institutional requirements, which often make digital devices a routine part of everyday life (NMHH, 2025). More broadly, institutional frameworks and regulatory discourses shape normative expectations regarding parental responsibility for children's digital engagement (Livingstone & Sylwander, 2025). Here, an exosystem-level condition over which parents have limited direct control reshapes individual parenting decisions by defining what counts as necessary, acceptable, or legitimate device use.

Beyond institutional settings, the qualitative findings highlight the role of social networks surrounding both parents and children. Friends, other parents, relatives, acquaintances, and colleagues often function as informal sources of guidance when parents face uncertainty about adolescents' technology use. Sharing similar views with the parents of their children's friends may reduce tensions and strengthen confidence in their own decisions. Likewise, acquaintances with professional expertise – such as teachers, psychologists, or addiction specialists – may provide reassurance and practical advice. These patterns correspond with research showing that parents often interpret digital risks and evaluate their own practices in relation to other parents, broader social expectations, and circulating public discourses about responsible parenting in the digital age (Livingstone & Blum-Ross, 2020). Hungarian studies similarly indicate that parents often turn to informal sources – including friends, relatives, schools, online forums, and media content – rather than formal institutional guidance when making decisions about children's digital media use (NMHH, 2025).

During the one-on-one and focus group interviews, parents also referred to broader informational environments, including online content, expert lectures, and public debates about digital parenting. Instead of reducing uncertainty, however, these sources sometimes intensified doubts and normative pressure. Parents generally expressed trust in expert advice and informational materials, and such messages often came to mind in everyday situations. From the researcher's interpretation, the dramatic or alarming language frequently used in these materials appeared to function as an implicit standard against which parents evaluated their own parental responsibility, sometimes contributing to a sense of unnecessary pressure. This dynamic is characteristic of a parenting culture organized around expertise and risk, in which authoritative, often alarming advice sets a demanding standard of vigilance and casts ordinary parenting decisions as potentially consequential (Lee et al., 2023). Because “good” digital

parenting is defined in such exacting terms, parents become structurally exposed to guilt and self-doubt, produced less by individual failings than by the normative environment itself (Sutherland, 2010; Henderson et al., 2016). This dynamic reflects broader transformations linked to the platformization of everyday life. Digital platforms, expert discourse, and algorithmically amplified risk narratives color public perceptions of children's digital lives and raise the expectations placed on parents (Livingstone & Sefton-Green, 2024; Livingstone et al., 2026).

Finally, the COVID-19 pandemic also emerged as an important contextual factor, especially in relation to institutional and temporal conditions shaping family life. Previous research shows that school closures, remote education, and limited offline activities increased children's screen exposure across age groups and intensified parents' responsibility for regulating digital use at home. During this period, digital devices became unavoidable tools for schooling, communication, and social interaction, blurring the boundary between necessary and recreational use (Ceylan et al., 2021; Eales et al., 2021; Karabanov et al., 2021). Focus group participants in the present study likewise described the pandemic as a turning point in the timing and normalization of children's technology use. Several parents reported that laptops, messaging applications, and other digital tools were introduced earlier than planned during online schooling. In these situations, device use was not a deliberate parental decision but a response to institutional expectations and practical necessity. As a result, the pandemic did more than temporarily increase screen time: it also changed how parents understood the level of digital engagement that had become unavoidable in contemporary childhood. This shows a contextual shock hardening into a standing decision: what began as a one-off concession to institutional necessity settled into a permanent baseline, so that a device handed over under duress became simply "what children need". The decision about timing was, in effect, taken out of parents' hands by an external emergency, and could not easily be reversed once made. Hungarian data similarly show that the spread of personal devices accelerated, especially among younger age groups, reinforcing the sense that digital technologies have become inevitable elements of everyday life (NMHH, 2025). From Belsky's (1984) socio-ecological perspective, the COVID period can be interpreted as a contextual stressor that altered both the constraints and the supports surrounding parenting, thereby influencing digital parenting indirectly by redefining what parents perceive as realistic or responsible.

In line with Belsky's (1984) socio-ecological framework, parenting practices related to adolescents' technology use do not emerge solely from parental intentions or competencies but

are embedded in broader structural and institutional environments. The findings show that work conditions, institutional expectations, social networks, and available resources shape how parents interpret their responsibilities and what they see as realistic or appropriate practices. In many situations, parents do not experience decisions about technology use as purely personal choices but as responses to external demands and constraints. This suggests that digital parenting extends beyond the family level: it is a socially structured process embedded in institutional environments and shaped by inequalities in time, knowledge, and material resources.

7.4. The tensions of digital parenting: integrating the subsystems

The preceding sections examined the parental, child-related, and contextual subsystems in turn. Read together, however, the findings do more than list separate determinants: they converge on a small number of recurring tensions that parents work to manage, and in these tensions the three subsystems meet. Each tension marks a point at which the wider context presses on an individual parental decision, so what appears to be a personal choice about monitoring, conversation, or shared use is, in practice, a negotiated response to competing demands. Three such tensions run across the data.

The first is a tension between resource and risk. Parents consistently treated digital technology as something to be cultivated and something to be contained at once. On the resource side, technology appears as an investment in the child's development and future prospects, to be supported and steered; this reasoning aligns with accounts of contemporary parenting as concerted cultivation and as a deliberate investment in children's skills and opportunities (Lareau, 2002; Doepke et al., 2019). On the risk side, the same technology figures as a danger to be anticipated and neutralized, a framing consistent with the risk-consciousness of late-modern parenting, in which parents are cast as the everyday managers of their children's exposure to uncertain harms (Beck, 1992; Lee et al., 2023). This tension is not resolved within the family alone. The moral vocabulary through which parents weighed opportunity against danger came largely from outside the family: expert advice, school messaging, and public debate. These external standards reached individual decisions through the norms parents carried in their heads. A parent who had attended an alarming lecture or absorbed warnings about online dangers could apply them as a yardstick, tightening monitoring or feeling obliged to intervene even when no concrete problem had arisen. In such cases, the decision to act was prompted less by the child's behavior than by an internalized normative standard set outside the family. This

also helps explain why parents so readily judged themselves against these standards. The resource-versus-risk tension is therefore a first site where the contextual subsystem enters and partly scripts individual parental decisions.

The second tension sets control against trust. Supervision and respect for the adolescent's growing autonomy pulled in opposite directions throughout the accounts. Parents described monitoring as an obligation they could not easily abandon, yet also as a practice that risked signaling distrust and straining the relationship; technical tools such as Family Link were valued for reducing conflict and criticized, in the same breath, for communicating suspicion. Above all, the child organized this tension. As adolescents matured, parents read them for signs of self-control and judgment and adjusted the balance accordingly, so that direct control tended to give way to trust-based arrangements and more indirect oversight. This developmental renegotiation is consistent with research describing digital parenting as a relational practice in which authority is continually negotiated rather than imposed (Livingstone & Blum-Ross, 2020), and it illustrates the reciprocity at the heart of Belsky's (1984) model: the child's characteristics do not merely receive parental strategies but actively redirect them. The control-versus-trust tension is thus where the child-related subsystem most visibly reshapes parental decisions.

The third tension concerns material and temporal resources. Time, energy, and material resources set the real limits of what parents could do, often regardless of what they believed they should do. Parents who experienced their working and family lives as reasonably balanced were better able to monitor, talk, and share digital activities, whereas those under pressure tended to fall back on less demanding forms of involvement. This helps explain why overload pushed monitoring and co-play in opposite directions. Faced with limited time and energy, parents did not simply choose between involvement and non-involvement; rather, they shifted between more and less resource-intensive forms of involvement. Co-play, which requires sitting down alongside the child and sharing an activity, was more easily dropped, while checking or monitoring, which could be done in passing and offered reassurance, was more likely to be retained. The quantitative finding that overload increased the likelihood of monitoring while reducing the likelihood of co-play can therefore be interpreted as a contextual constraint translated into a concrete allocation decision.

Much of the work governed by this tension was also anticipatory and organizational: the planning, monitoring, and worrying that preceded any visible act of parenting. This work was distributed unevenly. Mothers more often carried this cognitive load and voiced the

accompanying doubt, connecting the findings to research on the mental load of care and its gendered distribution (Daminger, 2019; Ciciolla & Luthar, 2019; Dean et al., 2022). At the same time, the tension also links digital parenting to accounts of parenting as a socially stratified investment, in which unequal resources translate into unequal capacities to guide children's development (Vincent & Ball, 2007; Hamilton et al., 2018). Of the three tensions, this is the most direct channel through which the contextual subsystem presses on individual practice. It helps explain why intentions and enactment so often diverge, and why digital parenting is patterned by social inequality.

Considered together, these tensions integrate what the subsystem-by-subsystem analysis leaves separate. They are not three further problems but the axes along which the parental, child-related, and contextual subsystems interact: context supplies the framing and the resources, the child redirects the balance, and parents absorb the resulting pressures as part of the ongoing organization of family life. Seen in this way, monitoring, conversation, and co-use are less discrete strategies than local settlements of the same underlying dilemmas. The tensions also clarify what kind of phenomenon digital parenting is. It is not a self-contained “screen problem” to be solved with the right rule or application, but one terrain of contemporary parenting on which parents continually assess how present, competent, and responsible they are. This integrative reading provides the basis for the adapted process model developed in the following section.

7.5. Digital parenting as a socio-economic phenomenon

The central claim that emerges from these findings is that digital parenting is not a set of discrete mediation strategies but a distinct, unevenly shared domain of contemporary care work, organized by the three tensions set out above. This claim extends Belsky's (1984) process model¹⁴ rather than merely applying it. Belsky specifies which subsystems bear on parenting; the present analysis specifies how they meet in the digital domain, and with what content. Where his framework treats parenting as the outcome of interactions among parent-related, child-related, and contextual factors, the results here show that in the digital domain those interactions take the concrete form of the resource–risk, control–trust, and aspiration–constraint tensions, and that managing them is an ongoing form of invisible, morally charged labor. Digital parenting is thus a specific domain of parenting within the same socio-ecological structure, but

¹⁴ Presented in Chapter 2.1.1, “The socio-ecological model of parenting”.

one whose dynamics this study makes explicit.

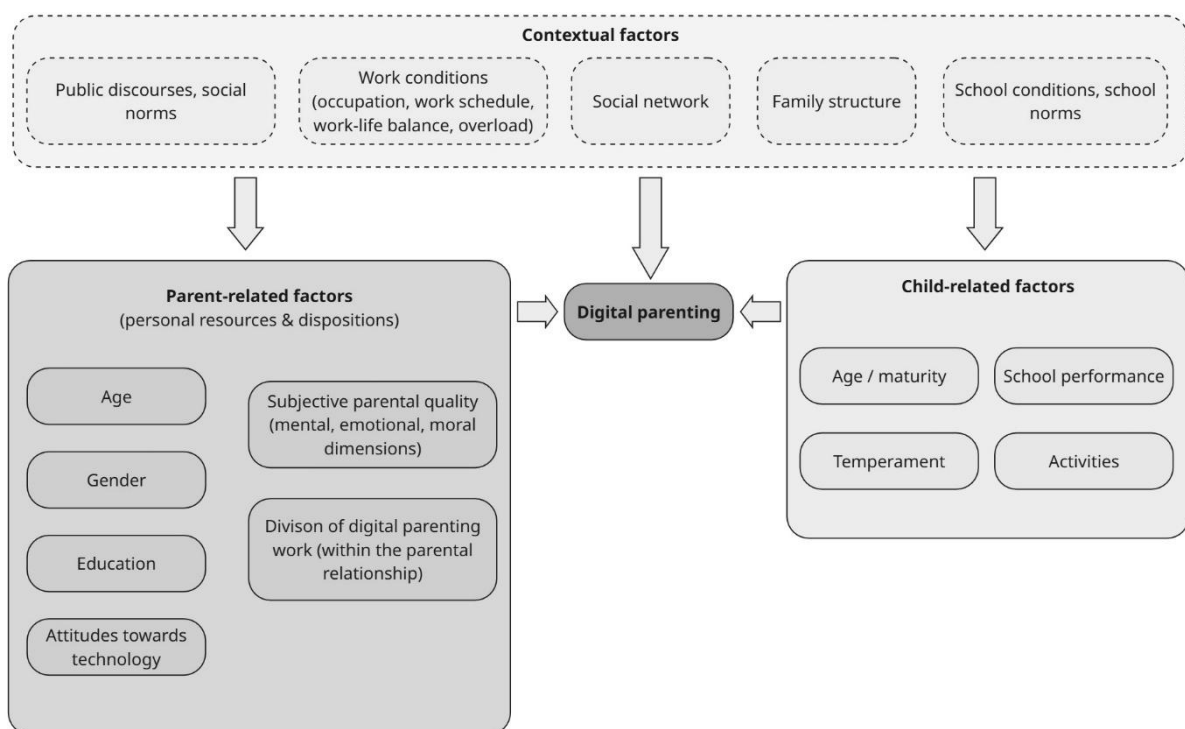
Across the analyses, digital parenting practices – monitoring, technology-related discussions, and co-use – turned on parental resources and dispositions, children’s developmental characteristics, and the wider context, such as work-related constraints, family structure, institutional norms, and social expectations. At the same time, the qualitative findings showed that digital parenting often requires continuous mental, emotional, and organizational work, which is not always evenly shared between parents. Parents frequently experience this work as a normatively charged responsibility. Understood in this way, digital parenting extends the intensive, and often gendered, work of contemporary parenting into the digital domain: much of it consists of anticipatory, invisible labor carried disproportionately by mothers and experienced as a moral obligation (Hays, 1996; Ciciolla & Luthar, 2019; Dean et al., 2022). This reframing, from discrete mediation strategies to ongoing, normatively loaded care work, is one of the study’s central interpretive contributions. These results also indicate that the subsystems identified by Belsky (1984) do not operate independently but rather influence one another through dynamic, reciprocal processes that run in both directions. From the top down, contextual conditions, from parents’ workplaces and school policies to cultural norms of responsible parenting, set the constraints and framing within which individual decisions about monitoring, conversation, and shared use are made. From the bottom up, those everyday practices feed back into the organization of family life, while children’s characteristics continually redirect parental decisions. This claim about interaction rests primarily on the qualitative material. The regression models were specified additively and therefore test whether indicators of each subsystem are independently associated with digital parenting practices, not whether the subsystems statistically interact. The interviews and focus groups show the subsystems acting on one another: context reshaping parental resources and availability, and children’s characteristics redirecting parental decisions. The quantitative analysis thus establishes that subsystem-linked factors help account for digital parenting, while the evidence of their interaction is qualitative.

Two findings show that this reading does explanatory work rather than merely relabelling Belsky’s (1984) categories. The first is the overload divergence discussed above (Chapter 7.4): an account that treated context as one more additive predictor of how involved parents are would expect a single stressor to move both practices in the same direction, whereas the fact that overload pulls monitoring and co-play apart is what the aspiration–constraint tension explains and what a bare subsystem list cannot predict. The second is the role of self-evaluation

in monitoring. Monitoring was associated with subjective parental quality, and in the qualitative accounts it appeared less as a technical safeguard than as a practice through which parents judged their own adequacy, undertaken even where no concrete risk was present and accompanied by guilt when it lapsed. A subsystem model can record that a parent-level variable is associated with monitoring; it cannot say why. Reconceptualizing digital parenting as morally charged, invisible care work supplies the missing content: monitoring is bound up with parents' sense of responsible selfhood, which is why self-evaluation predicts it and why the work is experienced as obligation rather than choice. In both cases the adapted model accounts for a pattern that the enumeration of subsystems leaves open, which is the sense in which the contribution is a specification of dynamics rather than a relabelling.

Based on the integration of the quantitative and qualitative results, Figure 8 presents an adapted process model of digital parenting. The model builds on Belsky's (1984) socio-ecological framework but places digital parenting at the center, illustrating how parent-related, child-related, and contextual factors jointly shape parenting practices in the digital age and interact dynamically.

8. Figure Conceptual model of digital parenting based on Belsky's (1984) process model of parenting, extended with the empirical findings of the present mixed-methods study



Overall, the findings confirm that digital parenting is best understood within a socio-ecological framework in which parenting practices are shaped by the interaction of parent-related, child-

related, and contextual factors. Differences in digital parenting, therefore, reflect not only individual preferences but also the structural conditions under which families organize everyday life, including available resources, work–family constraints, and institutional influences such as school expectations. The results further indicate that digital parenting forms part of the ongoing organization of everyday family life, requiring continuous adjustment to children’s developmental changes, parental capacities, and external demands. In this sense, managing adolescents’ technology use often becomes a form of mental, emotional, and organizational work that parents experience as normatively loaded and closely connected to their sense of responsible parenthood.

The following chapter summarizes the main findings of the dissertation and discusses the theoretical and empirical contributions of the study, as well as their implications for future research and practice.

8. Summary and conclusion

The aim of this dissertation was to examine how digital parenting in adolescence is shaped by parental, child-related, and contextual factors within a socio-ecological framework. Building on Belsky's (1984) process model of parenting, the study conceptualized digital parenting as a multidetermined phenomenon influenced by interacting subsystems rather than by isolated individual characteristics. Instead of relying solely on the traditional framework of parental mediation, the dissertation adopts the broader concept of digital parenting. This concept reflects the increasing integration of digital technologies into everyday family life and captures specific regulatory strategies alongside the broader organizational, relational, and normative dimensions of parenting in digitalized societies (Mascheroni et al., 2018; Livingstone & Blum-Ross, 2020; Nichols & Selim, 2022). To examine this complexity, the research applied a mixed-method design combining quantitative and qualitative approaches, allowing digital parenting to be analyzed both as a set of measurable practices and as an everyday family experience embedded in broader social and contextual conditions. Through this socio-ecological perspective, the dissertation aimed to contribute to a more comprehensive understanding of parenting in contemporary digitally mediated environments.

8.1. Summary of empirical findings

The following section summarizes the main empirical findings of the dissertation, integrating the results of the quantitative and qualitative analyses within the socio-ecological framework outlined earlier. The quantitative models examined three specific forms of digital parenting – monitoring, parent–child digital co-play, and technology-related discussions – and tested how parent-, child-, and context-related factors influence the likelihood of applying these practices. The two qualitative studies focused on the same practices in a more exploratory manner, allowing a more detailed understanding of how these strategies are interpreted and enacted in everyday family life, with particular emphasis on the diverse forms and meanings of monitoring.

The empirical findings show that digital parenting cannot be reduced to concrete practices; it also involves everyday mental, emotional, and moral work. Parents often described decision-making related to children's technology use as a continuous process involving uncertainty, responsibility, and normative expectations, in which they must balance protection, autonomy, and perceived social standards of good parenting. This broader experiential dimension provides an important interpretive context for understanding the empirical relationships presented in the

following sections.

8.1.1. Parent-related factors shaping digital parenting

The quantitative results show that higher subjective parental quality increases the likelihood of monitoring, while it is negatively associated with the probability of parent–child digital co-play. No significant relationship was found between subjective parental quality and technology-related parent–child discussions. The qualitative findings provided a detailed contextual interpretation of these results. Both individual interviews and focus group discussions indicated that digital parenting represents a domain in which parents strive to make responsible decisions despite considerable uncertainty. Parents expressed a strong intention to set safe boundaries for their children in digital environments while also respecting adolescents’ growing need for autonomy.

Part of this uncertainty appears to stem from the fact that most parents of adolescents themselves entered the digital world as adults and therefore lack clear role models for parenting in digital environments. The survey-based models showed that the likelihood of monitoring and co-play decreases with parental age, while no clear effect was found for technology-related discussions. The qualitative results suggest that monitoring and shared digital activities often require a certain level of digital competence, whereas initiating conversations may depend less on technical skills and more on parents’ willingness to seek information and remain informed about digital issues.

While parental age and subjective parental quality were not significantly related to discussions about technology use, parental education was an important predictor of this practice. Compared to parents with only primary education, those with vocational or higher education were significantly more likely to talk with their children about appropriate technology use. No significant difference was found between parents with primary education and those with secondary school graduation. The qualitative data, which mainly reflect the perspectives of middle-class and higher-educated parents, further suggest that parents’ confidence and involvement depend on their level of education, its field, and how far their work requires digital skills.

The quantitative analysis did not confirm the assumption that the parents’ gender directly influences the likelihood of applying digital parenting practices. However, the qualitative findings highlighted the unequal distribution of work associated with digital parenting.

Although the qualitative data do not allow a definitive conclusion about gender-based differences, female participants more often expressed doubts, uncertainty, and continuous reflection regarding what they considered appropriate digital parenting practices, and they frequently described their partners as taking a more relaxed approach. These accounts suggest that the emotional and mental load associated with digital parenting may be experienced more strongly by mothers, even when responsibilities are formally shared.

8.1.2. Child-related factors shaping digital parenting

The quantitative results confirmed the assumption that, even within the relatively narrow age range of 12–16 years, the likelihood that parents apply specific digital parenting practices decreases. The qualitative findings refined this result by showing that parents do not base their decisions primarily on chronological age but rather on their perceptions of children's maturity and developmental level. Parents frequently referred to children's ability to exercise self-control, recognize potential risks, and engage in meaningful dialogue as important considerations when deciding whether monitoring, discussions, or shared digital activities were necessary. In addition, as noted in relation to parent-related factors, increasing autonomy and parents' growing intention to respect adolescents' privacy also contribute to age-related changes in digital parenting practices.

The quantitative analysis also demonstrated that children with higher end-of-year academic grades are significantly more likely to have their technology use monitored by parents than children with lower academic performance. Qualitative findings suggest that parents often use school performance as a key reference point when evaluating whether stricter digital parenting practices are needed. When children's academic performance declines, parents tend to introduce more restrictive or controlling forms of mediation. However, interview data indicate that the effectiveness of such strategies varies, and stricter regulation does not necessarily lead to improved motivation or academic outcomes.

Contrary to initial assumptions, the survey results did not show a significant effect of children's gender on the likelihood of applying digital parenting practices. Nevertheless, gender differences emerged in the qualitative findings, primarily regarding perceived risks. Parents often associate different types of digital dangers with boys and girls and use these perceptions when justifying their decisions about supervision, restrictions, or discussions. Although these differences did not translate into statistically significant variation in the quantitative models, the qualitative data suggest that gendered perceptions of risk may still influence how parents

interpret and manage children's technology use.

8.1.3. Contextual factors shaping digital parenting

The empirical findings of the study indicate that an important contextual framework of parenting is shaped by work conditions, labor market position, and ongoing negotiations between parental and other adult roles. The quantitative models showed that parents who perceive a better balance between work and private life are significantly more likely to monitor their children's technology use, engage in digital co-play, and talk with them about appropriate technology use than parents who do not experience such a balance. At the same time, perceived overload is also related to digital parenting practices. Parents reporting higher levels of overload are more likely to monitor their children's technology use, but significantly less likely to engage in co-play than parents who do not feel overloaded. In addition, occupation type mattered for monitoring: parents in white-collar or entrepreneurial positions are more likely to monitor their children's technology use than parents in blue-collar occupations.

Qualitative findings provide further insight into the mechanisms behind these relationships. The interviews and focus groups showed that work brings both constraints and resources, and that these color parents' attitudes to technological change and their digital parenting. Some of these factors relate to time availability, such as working schedules, the possibility of working from home, and the level of concentration required by the job. Other factors concern work-related skills, competencies, and attitudes toward technology, which may increase parents' confidence in navigating digital environments and in guiding their children's technology use.

The school environment also proved to be an important contextual factor shaping digital parenting. Focus group participants reported that institutional expectations, such as online learning platforms and digital communication requirements, often make the use of digital devices unavoidable, reducing the extent to which these decisions are perceived as purely parental choices. At the same time, clearly defined school rules regarding technology use may provide guidance and reduce the uncertainty associated with digital parenting. The COVID-19 pandemic emerged as an important temporal contextual factor in parental perceptions within the school environment. Parents reported that the period of online schooling accelerated the introduction of digital devices, often at a younger age than they had originally planned. As a result, the pandemic temporarily increased screen time and accelerated the normalization of digital technology as a perceived necessity in family life.

According to the quantitative results, the likelihood of monitoring and technology-related discussions is not affected by the number of minor children living in the household. However, the probability of parent–child digital co-play is significantly lower in families with more than one child. Family composition also appeared as an important contextual factor in the qualitative findings. Parents’ accounts suggest that having multiple children complicates digital parenting by dividing parental attention and requiring practices to be tailored to each child’s age, personality, and needs. Sibling dynamics were also frequently mentioned. Parents described siblings influencing one another as positive or negative examples, and conflicts or jealousy arising over access to devices, the rules, or the age at which privileges are granted. These dynamics point to the family as a relational context in which digital parenting is shaped by both parent–child relations and sibling interactions. Differences in time resources, digital competence, and access to support may therefore contribute to inequalities in how families manage adolescents’ technology use.

8.2. Contribution

This dissertation contributes to the sociological understanding of digital parenting by providing a socio-ecological and mixed-method analysis of how parents manage adolescents’ technology use within everyday family life. By combining quantitative survey models with semi-structured one-on-one interviews and focus group discussions, the study offers theoretical, empirical, and methodological contributions to the literature on digital parenting and the sociology of contemporary parenting.

First, the dissertation contributes to the theoretical development of digital parenting research by systematically applying, and then adapting, Belsky’s (1984) socio-ecological model of parenting to parental practices related to adolescents’ technology use. While previous studies have often examined individual mediation strategies or isolated background variables, this research shows that digital parenting is best understood as the outcome of interacting influences at the parental, child-related, and contextual levels. Belsky’s framework provides a useful structure for organizing these determinants, as patterns of monitoring, co-use, and technology-related discussions are consistently conditioned by the combined effects of parental resources, children’s characteristics, and contextual factors such as work arrangements, family structure, and institutional expectations. The dissertation does not, however, simply confirm the model. It proposes an adapted version that places digital parenting at the center of the framework and specifies the reciprocal, cross-level dynamics through which the subsystems act on one another

in the digital domain. Its central theoretical move is to identify three cross-cutting tensions (between resource and risk, between control and trust, and between material and temporal aspirations and constraints) that operate as the axes along which the subsystems interact. In this sense, the contribution is not a relabelling of Belsky's categories with digital content, but a specification of the dynamics his model leaves open: what makes the subsystems interact, in which directions, and with what everyday consequences for parents. Where Belsky's model names the subsystems, these tensions specify how they meet in everyday practice, offering an integrative and portable reading of digital parenting that links the individual and contextual levels rather than treating them separately.

Second, the dissertation contributes to the empirical literature by reconceptualizing digital parenting as a form of ongoing, and largely invisible, care work, rather than as a set of observable strategies. Standard mediation typologies capture what parents do (restrict, discuss, co-use) but not the anticipatory attention, coordination, and emotional and moral effort that precede and surround these acts. The qualitative findings make this hidden layer visible: parents experience decisions about children's technology use as a continuous process carried out under uncertainty and normative pressure, in which they weigh the competing demands of protecting children from risk, supporting their digital skills, respecting their growing autonomy, and meeting perceived standards of responsible parenting. This reframing helps explain the quantitative finding that subjective parental quality is associated with certain practices: parents' sense of themselves as adequate caregivers is bound up with how far they take on this work. It also locates digital parenting within the sociology of intensive parenting and the mental load of care, showing that the management of children's digital lives is a site where the heightened responsibility, risk-consciousness, and gendered invisible labor of contemporary parenting become concretely visible (Hays, 1996; Lee et al., 2023; Daminger, 2019). Making this work visible, and naming its uneven distribution between parents, is one of the study's central empirical contributions.

Third, the dissertation contributes methodologically by combining quantitative survey analysis with qualitative interviews and focus group discussions within a coherent socio-ecological framework. The quantitative models identify associations between parent-related, child-related, and contextual variables and specific digital parenting practices. At the same time, the qualitative findings provide insight into the mechanisms through which these associations operate in everyday family life. This mixed-methods design makes it possible to interpret statistical results in light of parents' own explanations, dilemmas, and interpretations, and to

show how similar practices may have different meanings depending on family context. By integrating these approaches, the study demonstrates the value of combining statistical modeling with qualitative analysis in the study of parenting in digitalized societies.

Fourth, the dissertation contributes to the literature by situating digital parenting within the broader social context of contemporary family life, with particular attention to the Hungarian setting. Previous international research has emphasized the role of socioeconomic resources, institutional environments, and cultural expectations in shaping digital parenting, but empirical evidence from Central and Eastern Europe remains limited. By incorporating Hungarian survey data together with interview and focus group material, the dissertation shows how digital parenting practices are embedded in everyday routines, school expectations, work–family constraints, and informal networks of advice and comparison. The findings suggest that parents do not experience decisions about technology use as purely private choices, but as responses to institutional demands, peer norms, and widely circulating expert discourses. This contextual perspective situates digital parenting within broader social transformations related to digitalization, risk awareness, and changing expectations of parenting, rather than treating it as a purely family-level phenomenon.

The dissertation argues that digital parenting in adolescence should be understood as a socio-ecological process rather than a set of discrete strategies. Parental practices related to adolescents' technology use are shaped simultaneously by individual resources, developmental dynamics, and structural conditions, held together by the recurring tensions parents manage, and experienced as part of the more complex and morally charged project of contemporary parenting. By linking theoretical modeling, mixed-method empirical analysis, and contextual interpretation, the study provides a more nuanced understanding of how families navigate digital technologies in everyday life.

8.3. Implications

The findings of this dissertation have several implications for research, policy, and educational practice related to digital parenting. Most importantly, the results suggest that managing adolescents' technology use should not be understood as an individual parental responsibility alone but as a socio-ecological process shaped by parental resources, children's characteristics, and broader contextual conditions. Parental practices related to digital media emerge from the interplay of parental attitudes and competencies, work–family constraints, school expectations, social networks, and public discourses about digital risks. Consequently, approaches that focus

exclusively on prescribing ideal parental strategies risk overlooking the complex context within which families make everyday decisions.

From a research perspective, the results support the usefulness of socio-ecological frameworks, such as Belsky's (1984) process model, for understanding digital parenting. Parent-related, child-related, and contextual factors operate simultaneously, and their effects cannot be fully interpreted in isolation. The findings also demonstrate the value of combining quantitative and qualitative methods. Statistical models identify systematic associations between variables, while qualitative data reveal how parents interpret these situations, justify their decisions, and experience the everyday work of managing children's technology use. Future research on digital parenting may therefore benefit from theoretical and methodological approaches that integrate individual, relational, and structural dimensions.

From a policy perspective, the results indicate that parents often approach digital parenting with pre-existing attitudes shaped by their educational background, occupational conditions, social environment, and exposure to public discourse about digitalization. These attitudes influence how parents interpret their children's technology use and which practices they consider appropriate. Therefore, policy interventions should not prescribe a single "correct" way of digital parenting but provide reliable, balanced, and accessible information that helps parents make context-sensitive decisions. Flexible guidance may support parental agency, whereas rigid recommendations or alarmist messages can unintentionally increase the normative pressure that parents already experience in this domain.

The Hungarian policy context illustrates the importance of continuously updating institutional approaches to digital parenting. Hungary's Digital Child Protection Strategy, adopted in 2016, addressed the online environment under technological conditions that have since changed substantially. The rapid spread of smartphones, social media platforms, algorithm-driven content, and AI has transformed children's digital environments, while responsibility for managing risks often remains at the family level. When policy frameworks are not regularly revised and clearly communicated, parents may experience digital parenting as a strongly individualized and morally loaded task. This may reinforce inequalities between families with different levels of resources, time, and digital competence.

Educational institutions appear as particularly important actors in this context. Qualitative findings indicate that parents often rely on schools for guidance and perceive clear institutional

rules as relieving the burden of individual decision-making. Strengthening communication between schools and families about digital safety, device use practices, and online behavior may therefore be an effective way to support parents. At the same time, this implies a systemic responsibility: schools need clear guidelines, professional support, and consistent frameworks to provide reliable guidance. Without such institutional backing, regulating children's technology use remains primarily a private responsibility, which may increase differences between families.

The results also highlight the role of social inequalities in digital parenting. Differences in occupational position, education, and work–family balance were associated with variations in monitoring, discussions, and parent–child co-use. These findings suggest that digital parenting is partly conditioned by unequal access to time, knowledge, and material resources. Programs aimed at improving digital literacy should therefore not focus only on children but also on parents as users, decision-makers, and caregivers in digital environments. Providing access to practical, understandable resources—for example, on privacy settings, filtering tools, or communication strategies—may help reduce inequalities, but only if these resources are delivered through channels parents perceive as trustworthy and relevant. The findings suggest that parents often rely on informal networks, schools, or media sources when making decisions about digital parenting, which should be considered when designing support programs.

Finally, the results indicate that digital parenting is closely connected to the broader transformation of contemporary parenting. Parents described managing children's technology use as part of the everyday work of coordinating family life, maintaining routines, and meeting social expectations of responsible parenthood. Their decisions are rarely isolated choices; they are attempts to manage three recurring tensions: between technology as a resource and as a risk, between control and trust, and between what parents wish to do and what their time and means allow. Because these tensions are managed rather than resolved, support for parents is likely most useful when it helps them weigh trade-offs in their own circumstances, rather than prescribing a single right answer or, through alarmist framing, adding to the pressure they already feel. Understanding digital parenting in this wider context may help avoid narrow interpretations that reduce the issue to technical control or individual discipline.

The implications outlined above also point to several directions for future research. These directions are closely related to the limitations of the present study; therefore, the following subsection discusses suggestions for further research alongside the dissertation's

methodological and empirical constraints.

8.4. Practical recommendation: supporting parents without increasing parental burden

The clearest practical lesson of this dissertation is that digital parenting is not, at bottom, a problem of individual parental competence to be fixed by better-informed parents. It is a socio-ecological practice organized around recurring tensions – between technology as a resource and as a risk, between control and trust, and between what parents want to do and what their time and means allow – and it consists in large part of invisible, unequally shared work.

This does not mean that digital parenting is entirely separate from other domains of parenting. Many of the pressures identified here – responsibility, uncertainty, comparison, guilt, and unequal resources – are also present in parenting more broadly. Yet digital parenting has a distinctive temporal and public character. Parents’ decisions are repeatedly unsettled by technological changes that originate outside the family: new platforms, algorithmic content environments, generative AI tools, changing school systems, and shifting peer norms. This may require more frequent adaptation from parents than most other, more settled areas of childrearing. At the same time, digital parenting is a highly visible topic in social media, parenting books, expert talks, and public debate, often framed in terms of warning and crisis. As a result, parents are responding not only to technology itself but to a dense and often alarmist discourse about what responsible parents should do.

Two consequences follow for anyone who wants to help. Support should help parents manage these tensions rather than pretend they can be solved, and it should lighten and redistribute the everyday work of digital parenting rather than add another expectation. One test applies to any intervention: does it reduce the burden and the moral pressure parents already carry, or add to them? These are directions consistent with the study’s findings rather than validated prescriptions, and each would benefit from evaluation in its own right. Five levels of action follow.

National and institutional guidance should lower the moral stakes, not raise them. Parents draw the vocabulary of “good” digital parenting largely from expert advice, school messaging, and public debate, and when that vocabulary is alarmist, it produces guilt rather than good decisions. National frameworks should therefore offer guidance that is current, balanced, and deliberately non-alarmist: keeping pace with a fast-moving environment – platformized communication, algorithmic content, generative AI, and new online risks – while naming the

opportunities of digital life alongside the risks. In practice, this could mean regularly updated national digital child protection strategies – the Hungarian strategy, adopted in 2016, predates today’s platforms, AI, and school environments and illustrates the need for revision – together with evidence-based public information campaigns, parent-oriented guidance materials, and professional recommendations that avoid panic-driven language. The aim is not to prescribe one correct model of digital parenting, but to help families decide well in their own circumstances, without intensifying guilt.

Responsibility does not begin at the family, the school, or the state: the design of technology itself sets the terms within which parents act. This lies beyond the direct evidence of the present study, but it follows from its logic. If devices, platforms, and software were designed so that age-appropriateness and parental control were built in by default rather than added afterwards – and if recommender and content systems were sensitive to the age of the user – much of the burden that now falls on individual families would be addressed at its source. The decisive step is regulatory: to the extent that EU and national frameworks come to treat such by-design safeguards as an expectation rather than an optional feature, the largest structural actor – the technology industry – would carry a share of the load that no parent-facing measure can match.

Schools should be treated as the central institutional partner – and supported as one. Schools already structure device use at home, through learning platforms, communication channels, and their own rules. Clear, pedagogically justified school expectations can take part of the decision-making burden off parents, while inconsistent or absent ones leave families to improvise. Practical steps could include national or local guidelines for school-level device policies, model communication protocols for schools and families, and training for school leaders and teachers on how to address digital technology use in a consistent, developmentally sensitive, and non-alarmist way. Schools should communicate well-reasoned expectations to families, but they cannot carry this responsibility alone: they need professional support, institutional backing, and clear frameworks.

Parent-facing support should offer decision tools, not ideals. Parents do not need another portrait of the perfect digital parent; they need help weighing the child’s age, maturity, and vulnerability, the school situation, family routines, and the resources actually available to them. This support could take the form of short, practical guides; school-based parent workshops; moderated parent discussions; online decision aids; or consultation opportunities with trained professionals. The greatest value of such support lies less in general principles than in help

translating them to a family's concrete situation: the particular child's age and maturity, the specific devices, apps, and platforms present in the home, and the household's own routines and constraints. Brief individual or small-group consultation with trained professionals – in schools, family services, or counselling settings – can perform precisely this adaptive work, which no generic guideline can do on its own. Parent-oriented events should avoid sensationalist or fear-based framing. Rather than presenting digital technology mainly as a source of danger, they should combine evidence-based information with practical examples, space for questions, and recognition of the real constraints families face. Support should back transparent monitoring, trust-based communication, and gradual adjustment to adolescents' growing autonomy, while recognizing that time-intensive practices such as co-use are simply not equally available to all parents.

Test every measure against social inequality. Families differ not only in their attitudes to technology but also in their digital competence, working conditions, institutional support, and capacity to spend time and attention on children's digital lives; within families, invisible work falls unequally, most often on mothers. Support that assumes all families can enact the same practices under the same conditions will widen these gaps rather than close them. Programs should strengthen parents' digital literacy, provide low-threshold, trustworthy information through the informal channels parents actually use – schools, parent communities, local services, and accessible online platforms – and be designed for households with the least time and knowledge, not the most. Primary health care deserves particular attention here. General practitioners and, in the Hungarian context, health visitors (védőnők) reach virtually every family regularly, across social and educational lines, and are already trusted points of contact for questions about child development and well-being. With modest, evidence-based materials, they could become low-threshold information points on children's digital lives – channels that reach precisely the households least likely to attend a parent workshop or seek out online guidance. This also means that support should be available in formats that do not require extensive time, high educational confidence, or prior digital expertise. This has a further implication. Parenting support and school communication often reach mothers by default, thereby reinforcing the uneven distribution of invisible care work. Although this is not specific to digital parenting, it also shapes it. Addressing fathers directly and routing information to both parents would help distribute responsibility more evenly rather than reproducing its current concentration.

Taken together, these recommendations point to one way forward. Supporting digital parenting

means supporting the conditions under which parenting happens: sharing responsibility across schools, institutions, and policy rather than concentrating it on individual parents, and easing – rather than intensifying – the tensions and invisible work that define digital parenting today.

8.5. Limitations and suggestions for future research

The findings of this dissertation should be interpreted in light of several limitations related to data, research design, and scope. First, the quantitative analysis is based on cross-sectional survey data, which does not allow causal conclusions about the relationships between parental, child-related, and contextual factors and digital parenting practices. The models identify statistical associations but cannot capture the direction of influence or changes over time. In addition, the survey relies on self-reported parental data, which may be affected by social desirability bias, selective recall, or parents' own interpretations of their practices. The analysis therefore captures how parents perceive their digital parenting, not their observed behavior. A related consideration is that the survey was not originally designed to operationalize Belsky's (1984) model: its indicators approximate the three subsystems as available proxies rather than purpose-built measures (see Chapter 5.2.2.2), and two contextual constructs that the model treats as important, the quality of the partner relationship and social-network support, are examined only through the qualitative material.

A further consideration concerns the temporal structure of the research design. The three components were collected in different years (the survey in 2017, the interviews in 2019, and the focus groups in 2025–2026), a period in which digital technologies changed rapidly; the 2017 survey in particular predates short-form video, the COVID-19 pandemic, and generative AI. This temporal spread is a genuine limitation. It does not, however, undermine the study's integrated mixed-methods design: the components form a single explanatory sequential design unified by Belsky's (1984) framework (Chapter 5.1), in which the survey associations framed the qualitative analysis of the mechanisms behind them. Because the study is mixed-methods rather than longitudinal, it does not treat the components as comparable waves or infer change over time from differences between them. Firmer conclusions about change over time would require comparative or longitudinal data collected contemporaneously across all components.

The study is also limited by its focus on the Hungarian context. While this allows a detailed analysis of digital parenting within a specific institutional and cultural environment, the findings cannot be directly generalized to other countries with different policy frameworks, school systems, and digital infrastructures. Comparative research across national contexts

would therefore be needed to understand better how socio-ecological factors shape digital parenting under different institutional and cultural conditions.

As discussed in Chapter 7, the study deliberately analyses digital parenting from the parental standpoint, in keeping with its research question and theoretical framework. One consequence is that it does not capture adolescents' own perceptions of being parented, and previous research suggests that parental intentions and children's experiences may diverge, particularly around monitoring and restriction. Future multi-informant research combining parents' and adolescents' accounts would allow these perspectives to be compared directly.

The scope of digital parenting examined in this dissertation is also necessarily selective. The quantitative models focus on three practices – parental monitoring, parent–child discussions about technology use, and parent–child digital co-play – because these dimensions can be operationalized consistently across datasets and capture both control-oriented and relational forms of mediation. However, digital parenting is a broader phenomenon that also includes practices in which children are not active participants, such as sharenting, parents' own digital media use related to parenting, and the use of digital platforms to organize family life. Extending the socio-ecological approach to these additional dimensions would allow a more comprehensive understanding of how digital technologies reshape parenting.

Finally, the dissertation's mixed-method design represents both a strength and a limitation. While the combination of survey data, individual interviews, and focus group discussions made it possible to link structural patterns with everyday interpretations, the different datasets were collected at different points in time and from different samples, which restricts the possibility of direct integration at the individual level. Future research could benefit from designs that combine longitudinal, comparative, and multi-actor approaches to more precisely capture the dynamic, context-dependent nature of digital parenting. A further priority is to move from an exploratory, additive analysis to a confirmatory test of the model's interactional logic. The present quantitative models, built on secondary data, establish that subsystem-linked factors are associated with digital parenting practices but did not test whether the subsystems interact statistically. A purpose-built instrument based on Belsky's (1984) framework, with validated indicators of the parental, child-related, and contextual subsystems, would make it possible to specify models with interaction terms and directly test the reciprocal, cross-level dynamics that this study's qualitative findings bring into view. Substantively, further studies are also needed to examine the mental and emotional dimensions of digital parenting, which emerged in this

dissertation as a central but still under-researched aspect of contemporary parenting. Understanding digital parenting as part of the broader transformation of parenting in digitalized societies may provide a more adequate framework for interpreting both empirical findings and everyday parental experiences.

8.6. Concluding remarks

The results of the dissertation demonstrate that digital parenting in adolescence cannot be adequately understood as a set of isolated parental strategies or individual decisions. Rather, it works as a socio-ecological process shaped by the interaction of parent- and child-related factors, and the broader social and institutional context in which family life unfolds. Parents' practices related to adolescents' technology use are embedded in everyday routines, work–family constraints, school expectations, and public discourses about risks, responsibility, and the future. As a result, managing children's digital lives often becomes part of the ongoing mental, emotional, and organizational work of contemporary parenthood.

If the many findings are reduced to a single message, it is this. What holds them together is that parents are continually managing three recurring tensions. Technology is at once a resource to be cultivated and a risk to be contained; supervision competes with respect for the adolescent's growing autonomy; and time, energy, and money set the real limits of what any parent can do, whatever their intentions. These tensions are not solved but managed, and they are managed differently depending on a family's resources and a child's development. This is why digital parenting is best seen not as a “screen problem” with a technical fix, but as a new terrain of contemporary parenting: one of the arenas in which parents judge how present, competent, and responsible they are. Managing children's technology use does not stand apart from the rest of parenting; it has become one of the everyday measures by which parents assess their own adequacy. The dissertation's distinctive contribution is therefore twofold: it shows that digital parenting is organized by three cross-cutting tensions rather than reducible to discrete strategies, and that it is best understood as an ongoing, unequally distributed form of invisible care work. This is what an adapted, digital-era reading of Belsky's model adds beyond confirming that parents, children, and context all matter.

The findings also suggest that digital parenting reflects broader transformations in the social meaning of parenting in late-modern societies. Parents are expected to balance protection from potential harm with supporting children's autonomy, digital competencies, and participation in a highly digitalized world. These expectations are often uncertain and sometimes contradictory,

contributing to the perception that there is no single correct way to act. Digital parenting is one arena where the intensified, reflexive, morally scrutinized character of contemporary parenting becomes especially visible.

By applying Belsky's (1984) socio-ecological model and combining quantitative and qualitative methods, the dissertation has shown that digital parenting is best interpreted not as a technical problem to be solved within the family, but as a socially embedded practice shaped by structural conditions, cultural expectations, and everyday negotiations between parents and adolescents. This perspective moves us beyond simplistic debates about screen time or parental controls toward a more realistic understanding of how families navigate digital technologies in contemporary society.

These conclusions also suggest that the challenges associated with digital parenting should not be addressed solely as a matter of individual parental responsibility but require a systemic approach that accounts for the interplay among parental resources, children's characteristics, and broader contextual conditions. National strategies and policy frameworks can offer an important reference point, but only if they stay current with the pace of digital change and address its risks and opportunities alike. Such frameworks can offer guidance not only for families but also for the institutions that play a role in children's everyday lives. Schools, in particular, may function as key channels through which parents receive reliable and relevant information about digital technologies and their use. At the same time, institutional actors themselves cannot be left without support, nor can they be expected to define appropriate responses on their own. Effective approaches therefore have to work across all three levels – parent, child, and context – and resist prescribing one right way; better to offer a flexible toolkit that families can draw on to fit their own circumstances. Such a socio-ecological perspective makes it possible to support parents without increasing the already considerable normative pressure associated with raising children in a highly digitalized society.

9. References

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10. Appendices

Appendix A.

The survey and the interview guidelines of this research in Hungarian are available at the website of Zenodo (<https://zenodo.org/record/5070215#.YbcmYdDMLcv>).

Appendix B.

Focus group interview guide:

Please briefly introduce yourselves. During the introduction, please mention how many children you have and their ages, where you heard about the study, and what made you interested in participating.

In general, how do you see digitalization? What do you consider its main advantages and disadvantages?

How would you describe your own relationship to technology and your everyday technology use? How familiar do you consider yourselves with the digital world, and why? What digital devices do you mainly use at home, and for what purposes? What do you see as the main benefits of digital technologies? What do you see as the disadvantages of digital technologies? Do you have any concerns or fears related to them?

How is technology present in the everyday life of your family? How does it appear in daily routines and family logistics? How does it appear in family activities or time spent together (for example, watching films together, playing computer games, etc.)? [co-use] Would you like to change anything in these practices? If yes, how?

What do you think about your adolescent children's independent technology use? How would you evaluate the amount of time your children spend in front of screens, and the quality or usefulness of this time? Why do you think your children use digital devices in this way / this much / for these purposes? What factors influence their technology use? From your child's perspective, what are the main advantages of technology use? What are your biggest concerns regarding your children's technology use?

To what extent and how do you monitor what your children do on digital devices and how much they use them? Why do you use these particular methods? [monitoring]

How often do you talk with your children about the use of digital devices? What do you usually talk about? What kinds of questions do your children ask you? If this has changed over the years, how has it changed? [discussion]

What is your current role in shaping your children's technology use? What is the role of the other parent or other family members? If you could change anything, what would you change?

Where do you get information about the effects of technology use on children, and about possible ways of supervising or regulating it? If not mentioned spontaneously: Who do you discuss these issues with? Whose opinion do you trust? Are these sources consistent, or do they sometimes contradict each other? How easy or difficult is it to apply this information in everyday life?

Does anyone have any additional thoughts or comments on the topic?

Appendix C.

Control variables measuring parental and child screen time were included in all Model IV. As these variables serve only as controls, their AME estimates are reported in Appendix C. and are not shown in the main tables.

11. Table Monitoring of child's technology use (AME from the final model)

Variable	AME	SE	z	p	95% CI lower	95% CI upper
Gender of the parent: male	0.0045	0.0328	0.1368	0.8912	-0.0598	0.0687
Age of the parent	-0.0113	0.0031	-3.5800	0.0003	-0.0174	-0.0051
Education level of the parent: vocational school	0.0737	0.0756	0.9746	0.3298	-0.0745	0.2218
Education level of the parent: high school graduation	0.0923	0.0791	1.1671	0.2432	-0.0627	0.2473
Education level of the parent: higher education	0.1441	0.0877	1.6436	0.1003	-0.0277	0.3160
Subjective parental quality	0.1131	0.0355	3.1852	0.0014	0.0435	0.1827
Age of the child	-0.0313	0.0108	-2.8939	0.0038	-0.0525	-0.0101
Gender of the child: boy	-0.0060	0.0325	-0.1844	0.8537	-0.0697	0.0577
GPA: good / very good / outstanding	0.1308	0.0428	3.0588	0.0022	0.0470	0.2147
Minors in the household: more than one	-0.0337	0.0319	-1.0539	0.2919	-0.0962	0.0289
Type of occupation: white-collar & entrepreneurs	0.0839	0.0394	2.1311	0.0331	0.0067	0.1612
Work and life in balance: yes	0.1638	0.0305	5.3779	0.0000	0.1041	0.2236
Perceived overload: yes	0.0996	0.0324	3.0774	0.0021	0.0362	0.1631
Parent's screen time / week	0.0001	0.0000	2.1965	0.0281	0.0000	0.0001

Child's screen time / week	-0.0001	0.0000	-3.4490	0.0006	-0.0001	-0.0000
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12. Table Parent–child co-play on digital devices (AME from the final model)

Variable	AME	SE	z	p	95% CI lower	95% CI upper
Gender of the parent: male	0.0428	0.0335	1.2804	0.2004	-0.0227	0.1084
Age of the parent	-0.0146	0.0032	-4.5724	0.0000	-0.0208	-0.0083
Education level of the parent: vocational school	0.0844	0.0738	1.1432	0.2530	-0.0603	0.2291
Education level of the parent: high school graduation	0.0407	0.0780	0.5221	0.6016	-0.1122	0.1937
Education level of the parent: higher education	0.0284	0.0866	0.3278	0.7431	-0.1414	0.1982
Subjective parental quality	-0.0880	0.0353	-2.4897	0.0128	-0.1572	-0.0187
Age of the child	-0.0337	0.0111	-3.0314	0.0024	-0.0555	-0.0119
Gender of the child: boy	-0.0578	0.0331	-1.7436	0.0812	-0.1227	0.0072
GPA: good / very good / outstanding	0.0500	0.0424	1.1788	0.2385	-0.0331	0.1330
Minors in the household: more than one	-0.0750	0.0322	-2.3257	0.0200	-0.1382	-0.0118
Type of occupation: white-collar & entrepreneurs	0.0533	0.0410	1.3015	0.1931	-0.0270	0.1336
Work and life in balance: yes	0.0712	0.0325	2.1947	0.0282	0.0076	0.1349
Perceived overload: yes	-0.0818	0.0328	-2.4936	0.0126	-0.1461	-0.0175
Parent's screen time / week	-0.0000	0.0000	-0.2368	0.8128	-0.0001	0.0001
Child's screen time / week	-0.0001	0.0000	-3.0372	0.0024	-0.0001	-0.0000

13. Table Parent–child discussion about technology use (AME from the final model)

Variable	AME	SE	z	p	95% CI lower	95% CI upper
Gender of the parent: male	0.0415	0.0335	1.2378	0.2158	-0.0242	0.1072
Age of the parent	-0.0060	0.0032	-1.8879	0.0590	-0.0123	0.0002
Education level of the parent: vocational school	0.1544	0.0761	2.0292	0.0424	0.0053	0.3036
Education level of the parent: high school graduation	0.1426	0.0806	1.7702	0.0767	-0.0153	0.3005
Education level of the parent: higher education	0.1836	0.0887	2.0694	0.0385	0.0097	0.3575
Subjective parental quality	0.0326	0.0341	0.9556	0.3393	-0.0342	0.0994
Age of the child	-0.0354	0.0112	-3.1548	0.0016	-0.0574	-0.0134
Gender of the child: boy	-0.0222	0.0332	-0.6676	0.5044	-0.0873	0.0429
GPA: good / very good / outstanding	0.0512	0.0418	1.2235	0.2211	-0.0308	0.1332
Minors in the household: more than one	0.0035	0.0327	0.1087	0.9135	-0.0605	0.0676
Type of occupation: white-collar & entrepreneurs	0.0265	0.0409	0.6472	0.5175	-0.0537	0.1066
Work and life in balance: yes	0.0798	0.0324	2.4646	0.0137	0.0163	0.1433
Perceived overload: yes	0.0206	0.0334	0.6182	0.5364	-0.0448	0.0861
Parent's screen time / week	0.0001	0.0000	3.0294	0.0025	0.0000	0.0002

Child's screen time / week	-0.0000	0.0000	-1.3975	0.1623	-0.0001	0.0000
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