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MEDIA LITERACY IN FAMILIES: DIGITAL PARENTING AND CHILDREN'S MEDIA LIVES IN HUNGARY

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MEDIA LITERACY IN FAMILIES: DIGITAL PARENTING AND CHILDREN'S MEDIA LIVES IN HUNGARY

Doctoral dissertation

Veronika Pelle

Budapest

2026

I dedicate this dissertation, with everlasting love,
to the memory of my dear grandparents,
who gave me a childhood untouched by digital devices,
shaped by loving guidance, strong values, and genuine human relationships.
Through the example of their lives
—their quiet strength, tireless work ethic, and unwavering support—
they remained by my side throughout my doctoral studies,
but did not live to see this dissertation submitted.

ACKNOWLEDGEMENTS

I vividly remember my first consultation with my supervisor, Dr. Petra Aczél, when, in my fifth year at university, I approached her with the idea of writing my thesis on media literacy. That conversation had such a profound impact on me that I can still recall the feeling I carried with me as I walked out of her office that day. As one of her students, I had long been captivated by her intellectual brilliance and inspiring presence as a speaker. Yet that conversation gave me something deeper still: it was then, I believe, that I first truly felt that the opportunity to explore and understand the world around us through research and scholarship is a gift, and that there is genuine joy in seeking to illuminate even one small corner of it. I am profoundly grateful to her for placing her trust in me; for guiding me towards the academic path that was to become my vocation; and for believing in me more deeply than I was ever able to believe in myself. She will always remain a steady point of reference in my life.

I would also like to express my heartfelt gratitude to my other supervisor, Dr. Gábor Kovács, whose intellectual rigour, precision, and professional standards became a benchmark for me long before he became my supervisor. I thank him for his guidance, invaluable scholarly advice, and meticulous attention to every detail. His professionalism, integrity, and humanity are qualities I deeply admire and aspire to embody.

I am sincerely grateful to my current and former leaders and colleagues at Corvinus University of Budapest and at the Institute of Marketing and Communication Sciences. I thank them for inspiring me, encouraging me, and continually showing me through their own example what academic life can and should be. I am also deeply grateful to the Dean, the Head, and the staff of the Doctoral School, and in particular to the Head of the Communication Science Doctoral Programme, for the dedication with which they supported me during the final stages of the doctoral process. Their help has meant more to me than I can adequately express. I also think of Dr. Özséb Horányi, the founder of our Doctoral School, with profound gratitude.

I owe equally sincere thanks to my current and former leaders at the National Media and Infocommunications Authority (NMHH) for giving me the opportunity to coordinate the *Digital Parenting Research* series for nearly a decade, and for enabling me to base this doctoral dissertation on the secondary analysis of its data. I am grateful that, over the years, this research series—and, alongside it, the NMHH's contributions to media literacy and digital child protection—have come to occupy an increasingly important place both in the Hungarian professional landscape and the international regulatory community. I hope that the dedicated work of my colleagues who share this commitment will continue to help many Hungarian families navigate digital life with greater confidence, heightened awareness, and deeper understanding.

I am deeply indebted to my reviewers, Dr. Enikő Szőke-Milinte and Dr. Péter Bányász, whose exceptionally insightful, valuable, and constructive comments helped me to improve

this dissertation in ways that would not have been possible without their careful reading and thoughtful guidance.

I am also grateful to my former teachers, many of whom I have been fortunate enough to regard as true mentors. Through their example, they showed me what it means to be a teacher in the fullest sense of the word. I carry their influence with me not only in the way I understand my vocation, but also in the kind of teacher I strive to become. I am grateful that they chose teaching as their vocation and, in doing so, set an example that inspired me to follow in their footsteps. I also thank my students, whose bright eyes, curiosity, and questions born of a desire to understand the world more deeply continue to inspire me every day in the classroom and remind me why I chose this profession.

My special thanks go to Csaba Majercsik for always standing by me, to the members of the Új Szív Community for their prayers, and to Márton Rétvári and Gábor Polonyi for offering a helping hand even on the most difficult days.

Finally, no words can fully express my gratitude to my parents and my family for their devoted and selfless love and care. Throughout my doctoral years, as throughout my life, they have been my surest anchors and my unwavering source of strength. I would not be who I am without them.

Above all, I give thanks to God, whose grace sustained me through every difficulty, even when my own strength fell short.

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1. INTRODUCTION

"We want our children back."

This cry for help was addressed to the audience by Kate Winslet in her powerful and moving acceptance speech at the 2023 British Academy of Film and Television Arts (BAFTA) Television Awards, after receiving the Leading Actress award for her performance in the episode *I Am Ruth* of the anthology series *I Am…* (BAFTA, 2023). The episode tells the story of a mother who desperately tries to help her teenage daughter, struggling with a mental health crisis and withdrawing into social media, often refusing even to speak to her mother. Winslet dedicated the film to parents and their children:

> …for families who feel that they are held hostage by the perils of the online world. For parents who wish they could still communicate with their teenagers but who no longer can. And for young people who have become addicted to social media and its darker sides: this does not need to be your life. (BAFTA, 2023, 2:00)

These words resonated far beyond the walls of the ceremony: they reflect a broader and empirically documented reality. Children's daily media lives are increasingly dominated by smartphones, social networking sites, and streaming platforms. According to the wide-scale large sample *EU Kids Online 2020* survey, the smartphone has become the primary means of going online for most children aged 9–16 across Europe, enabling "anywhere, anytime" connectivity, with the majority reporting daily or near-daily smartphone use to access the internet, which displays a substantial increase compared with 2010 (Smahel et al., 2020). Over the same period, in several countries, children's average daily time spent online has nearly doubled: in Spain, from one to three hours, and in Norway, from approximately two to three and a half hours (Smahel et al., 2020). Similar trends have been confirmed among young people aged 16 and above across the European Union. According to Eurostat's databases, a near-universal daily internet use was reported in 2025 across the EU Member States: 98% of 16–24-year-olds are daily internet users (Eurostat, 2025a), and over 89% of 16–29-year-olds participate in social networking, with most Member States exceeding 90% (Eurostat, 2025b; Eurostat, 2026, April 9). In Hungary, daily internet use among young people aged 16–24 also exceeds 96%, consistent with the EU-wide pattern of near-universal connectivity in this age group (Eurostat, 2025a).

Alongside expanding digital participation, large-scale surveys document that children and adolescents face a wide range of online risks. According to *EU Kids Online 2020*, between 7% and 45% of 9–16-year-olds in 19 European nations report having been disturbed or upset by something online in the previous year; in most countries fewer than 10% report cyberbullying victimisation on a monthly basis; between 21% and 50% have seen sexual images online; and between one in two and one in four people have interacted online with someone they have never met in person (Smahel et al., 2020). Policy-level sources corroborate these findings: the European Commission's recently published 2026 *Action plan against cyberbullying* cites evidence that one in six children aged 11 to 15 in the EU has experienced cyberbullying victimisation at least once in recent months, and one in eight admitted having participated in it as a cyberbully (Cosma et al., 2024; European Commission, 2026).

An increasing amount of research connects signs of problematic internet use (PIU) and declining mental health to excessive and dysregulated usage of digital media in children and adolescents. Empirical evidence from a large, transdiagnostic community sample indicates that problematic internet use is substantially linked to depressive disorders, sleep disturbances, and general impairment in children and adolescents, even after adjusting for comorbid psychiatric conditions (Restrepo et al., 2020). Internet gaming disorder (IGD) and problematic social media use (PSMU) were linked to lower interpersonal trust, worse family functioning, and clinically relevant depressive symptoms, which were present in 14.3% of IGD patients and 34.6% of PSMU patients in a representative sample of German teenagers (Wartberg et al., 2020). While only a small percentage of children in EU Kids Online 2020—between 0% and 2.1% across countries—met all five criteria for excessive internet use, a significantly higher percentage (4–21%) reported individual problematic behaviors, such as spending less time with friends, family, or schoolwork as a result of daily or weekly internet use (Smahel et al., 2020).

Concerns of this kind are no longer confined to the realm of fiction or individual family experience; they have become central to public debate at the highest levels of political leadership. In her *State of the Union 2025 Address* to the European Parliament, European Commission President Ursula von der Leyen (2025, p. 17) spoke directly to parents navigating the digital age. Speaking as a mother of seven and a grandmother of four children, she admitted the benefits of social media for connecting people but also expressed the concern of parents who are trying to do their best to keep their children safe online. She

enumerated these risks in stark, unambiguous terms: "Online bullying. Adult content. Promoting self-harm. And algorithms that prey on children's vulnerabilities with the explicit purpose of creating addictions." Describing the sense of parental powerlessness, she continued: "Too often mums and dads feel powerless and helpless. That they are drowning against the tsunami of Big Tech flooding their family homes." She concluded with a clear statement of principle: "I strongly believe that parents, not algorithms, should be raising our children. Their voice must be heard" (von der Leyen, 2025, p. 17).

Against this backdrop, parents occupy a critical role in shaping their children's digital lives. Research consistently identifies parental mediation as a key mechanism through which families negotiate how children access and use digital media, encompassing active co-use and discussion, instructive communication about online content, restrictive rule-setting, and technical monitoring (Livingstone & Helsper, 2008; Smahel et al., 2020). Yet, the relationship between parental strategies and children's actual digital behaviours and risk experiences is far from straightforward. Recent work demonstrates that parental risk perception and digital skills interact in complex, nonlinear ways to shape whether and how parents intervene in their children's online activities (Helsper et al., 2025). Recent systematic evidence on digital safety interventions further suggests that improvements in parental knowledge and skills can produce significant decreases in children's screen time, but that gains in knowledge alone do not automatically translate into sustained changes in children's behaviour or reduced risk exposure (Zgambo et al., 2025). These results highlight the need for frameworks that go beyond cataloguing discrete parenting strategies to examine the broader dispositional and attitudinal foundations, including values, beliefs, self-efficacy, and risk perceptions.

Despite the existence of a substantial corpus of international research, there are still substantial gaps in the literature regarding digital parenting and its impact on the digital lives of children. Many existing studies rely on small or non-representative samples, cross-sectional designs, and single-country Western European or North American contexts, limiting the generalisability of findings across diverse socio-cultural settings (Livingstone & Helsper, 2008; Smahel et al., 2020). A recent three-level meta-analysis (Tan et al., 2025) synthesising 88 primary studies published between 2008 and 2024 on children's digital well-being and digital parenting concluded that research in this field remains fragmented, with considerable variability in how parenting strategies are operationalised and measured, and highlighted the persistent need for longitudinal, representative datasets. Central and Eastern

European contexts are especially underrepresented, despite emerging evidence that cultural, economic, and regulatory factors substantially shape both children's online environments and parental responses to them (Halász, 2025).

A further gap concerns the conceptual foundations of parenting strategies themselves. Recent work demonstrates that discrete parenting behaviours are predicted by broader dispositional factors—including risk perceptions, self-efficacy in digital parenting, perceived digital skills relative to the child, and underlying attitudes toward digital media—yet these dispositional dimensions are still rarely examined alongside behavioural strategies (Helsper et al., 2025). This is consequential: without an adequate understanding of the dispositional underpinnings of parental mediation, interventions aimed at changing parental behaviour are likely to remain superficial and ineffective (Zgambo et al., 2025).

Against this backdrop, the present dissertation sets out to examine empirically how digital parenting is practised, how its population-level patterns have changed across survey waves, and how it is associated with children's online lives in a Central and Eastern European setting that remains markedly underrepresented in the international literature. It does so through a secondary analysis of data from the *Digital Parenting Research* series, a nationally representative, repeated cross-sectional research series involving children aged 7–16 and their parents in Hungary across three waves (2017, 2020, and 2024/25), with matched parent–child dyads in each wave (N = 2,000 children and N = 2,000 parents per wave). Since 2020, data collection has been conducted using computer-assisted personal interviewing (CAPI). This design makes it possible to compare population-level patterns in children's digital media lives and parental mediation across survey waves and, within the 2024/25 data in particular, to examine associations between parental mediation strategies and a broad range of child-related digital outcomes. By foregrounding the Hungarian case, the study contributes nationally representative evidence from a Central and Eastern European context that remains underrepresented in the international literature and responds to calls for a broader and more representative evidence base, while providing repeated cross-sectional population-level comparisons rather than longitudinal within-person evidence (Tan et al., 2025).

Guided by the descriptive and exploratory aims of the study, the dissertation pursues five research questions. The first three characterise the principal actors and conditions: children's digital media lives—their device access, internet use, content consumption, screen time, and

social media presence, and how these have changed over time; children's digital attitudes, problematic internet use, and adverse online experiences; and parents' own digital attitudes, self-efficacy, risk perceptions, and concern profiles. The remaining two turn to parental mediation itself: the strategies that parents employ and how their prevalence has shifted across waves; and the associations between these strategies and a wide range of children's digital outcomes, with particular attention to which strategies show the most consistent patterns of association across the examined domains. Together, these questions move the analysis from describing the digital childhood landscape towards examining how different forms of parental mediation are associated with different dimensions of children's digital lives.

The dissertation is organised as follows. The present introduction is followed in Chapter 2 by a review of the literature, which defines the core concepts, presents the four-strategy framework of parental mediation, and examines the factors that shape mediation practices, the changing conditions of digital childhood, and the role of technical tools. Chapter 3 identifies the research gaps and formulates five research questions, after which Chapter 4 describes the research methodology: its survey design, sample, instruments, and analytical procedures. Chapter 5 reports the empirical findings and results, organised by research question, while Chapter 6 interprets and discusses them in light of the existing literature. Chapter 7 outlines the theoretical, policy, practice, and methodological implications of the work, including implications for future research and monitoring. Chapter 8 synthesises the novel contributions of the dissertation, discusses its limitations, sets out broader directions for future research, and concludes with closing remarks. Finally, the dissertation concludes with a list of references and appendices.

2. LITERATURE REVIEW

This chapter establishes the theoretical and empirical foundations of the dissertation across eight thematically connected sections. Section 2.1 traces the digitalisation of childhood, from the transition to media-rich, increasingly personalised and mobile connectivity to the socio-ecological conditions that shape children's everyday media use. Section 2.2 maps children's online risks and adverse experiences, distinguishing analytically between risk and harm and examining high-impact forms of digital victimisation alongside children's coping, disclosure, and help-seeking responses. Section 2.3 then narrows the focus to excessive and problematic internet and technology use, and to the contested but increasingly nuanced evidence on social media and adolescent well-being. Section 2.4 shifts the lens to parents, conceptualising digital parenting as a multidimensional reconfiguration of traditional caregiving and examining digital parental awareness, parenting orientations, digital self-efficacy, and risk perception as dispositional foundations of parental engagement with children's digital lives. Section 2.5 turns to concrete parental mediation practices—active mediation, restriction, monitoring, and technical mediation—together with their predictors, age-related patterns, and behavioural and relational links with children's digital experiences. Section 2.6 situates the dissertation in its geographical context by reviewing research on digital parenting in Central and Eastern Europe, with particular attention to the Hungarian evidence base. Section 2.7 synthesises the reviewed literature and identifies the broader conceptual tensions and limitations that motivate the present study. Finally, Section 2.8 integrates these strands into a literature-informed conceptual framework that makes explicit the principal domains and theoretically expected relationships emerging from the review and provides the conceptual basis for the research gaps and research questions developed in Chapter 3.

2.1 The digitalisation of childhood

In many high- and middle-income countries, contemporary childhood is increasingly described as "digital," in the sense that screens, networked devices, and online services are deeply embedded in children's everyday lives at home, at school, and in peer contexts (Livingstone & Blum-Ross, 2020). Rather than being optional entertainment, digital media form part of the infrastructural conditions of growing up, with children moving routinely

between offline and online environments and relying on digital tools for information, communication, and leisure (Smahel et al., 2020). Large-scale European surveys show that children's internet use has become both more frequent and more ubiquitous: most 9–16-year-olds report going online daily, often several times per day, and doing so across multiple locations and contexts (Smahel et al., 2020).

Current policy and professional debates increasingly conceptualise children's engagement with technology within a broader "digital ecosystem" that includes not only devices and platforms, but also family practices, commercial actors, schools, and regulatory frameworks (Munzer et al., 2026). From this perspective, access to the internet and digital devices is shaped by the interplay of household resources, parental norms, institutional expectations and infrastructural conditions, rather than by individual choices alone (Livingstone & Blum-Ross, 2020; Smahel et al., 2020). This section uses such a socioecological lens to situate the dissertation's empirical work by examining three interrelated developments: the historical evolution of the domestic media environment towards the "media-rich home" and bedroom-centred media use (Section 2.1.1), the intensification and problematisation of children's screen time (Section 2.1.2), and the lowering of the effective age of entry into social media platforms (Section 2.1.3).

2.1.1 From television to the connected bedroom

Early research on children's media consumption focused on the television set as the central, shared device in the domestic media environment, typically located in the family living room and embedded in collective viewing routines (Livingstone, 2007b). In this configuration, children's access to mediated content was spatially anchored and largely visible to parents: adults could see what was being watched, join in or comment on programmes, and impose explicit or implicit rules regarding timing, content and co-viewing (Livingstone, 2007b). The living room television thus functioned as a focal point around which everyday rhythms and negotiations about media use were organised, and parental regulation was supported by the simple fact that media use occurred in a shared space (Livingstone, 2007a; Livingstone, 2007b).

From the late 1990s onwards, the diffusion of personal computers, gaming consoles and home internet access initiated a gradual but profound reconfiguration of this arrangement (Livingstone, 2007b). Survey data from the *UK Children Go Online* and the *Young People, New Media* projects showed that families were not merely adding new devices to existing

patterns of television viewing, but also rearranging where devices were located in the home and how they were shared between family members (Livingstone, 2007b). One recurring point of contention concerned whether computers and internet-connected devices should remain in shared spaces (such as the living room or a family study area) or be moved into children's bedrooms, where they could be used more privately and flexibly (Livingstone, 2007b). These choices reflected not only attitudes towards technology, but also broader dynamics of parental authority, children's claims to privacy and autonomy, and the extent to which families embraced more negotiated, "democratic" patterns of interaction (Livingstone, 2007a; Livingstone & Blum-Ross, 2020).

The notion of *bedroom culture* has been used to capture this shift towards the bedroom as a key site of youth media use and identity work (Livingstone, 2007a). In this configuration, bedrooms are no longer primarily spaces for sleep, but multi-functional environments where televisions, computers, music players and, more recently, smartphones and tablets are concentrated, enabling children to watch, play, listen and communicate with less direct parental oversight (Livingstone, 2007a; Livingstone, 2007b). As screens proliferate and migrate into private spaces, media consumption becomes more individualised and less visible, making it harder for parents to rely on simple spatial strategies—such as keeping the television in the living room—to supervise or limit use (Livingstone, 2007b). At the same time, the move towards bedroom-centred media use can also be understood as part of wider trends of youth individuation and the increasing importance of personal space in adolescence (Livingstone & Blum-Ross, 2020).

Evidence from Central and Eastern Europe indicates that media-rich homes and bedroom-based media use are not exclusive to Western European or North American contexts. In a Czech national survey of almost a thousand parents of children aged 6 to 17, Stašová (2015) discovered that a large majority of households had a personal computer and internet connection, and that more than half of the children had at least one media device in their own room, such as a computer or television (Stašová, 2015). She also reported that parents living in more device-saturated, media-rich homes tended to express weaker beliefs in the need for strict regulation of their children's media use, suggesting a paradoxical association between higher levels of in-home connectivity and lower levels of explicit regulatory intent (Stašová, 2015). This pattern supports the claim that parental practices of domestic media regulation are shaped less by the novelty of specific technologies and more

by relatively stable parent–child relationships and social positions, which are then extended to successive generations of media (Livingstone, 2007b).

The fourth wave of the *EU Kids Online* research series provides a broader comparative picture of children's access to internet-capable devices across 19 European countries (Smahel et al., 2020). In the 2020 survey of over 25,101 children aged 9–16, smartphones emerged as the dominant access device, with the vast majority of children going online at least daily and many reporting that they are connected "almost all the time" (Smahel et al., 2020). The data indicate that internet use frequently takes place in private spaces such as bedrooms or when children are alone, rather than exclusively in shared family areas, further reducing the opportunities for effortless, incidental parental monitoring that characterised earlier, television-centred domestic arrangements (Smahel et al., 2020). In several Central and Eastern European countries, the rapid expansion of access documented in EU Kids Online has not always been matched by equally developed parental support and mediation practices, raising concerns about a mismatch between children's connectivity and the protective capacities of their immediate environment (Smahel et al., 2020; Stašová, 2015).

A counterintuitive pattern in the socioeconomic distribution of bedroom-based media use further complicates the picture. While it might be assumed that media-rich bedrooms are a privilege of affluent households, the evidence points in the opposite direction: children from lower-income, less-educated families are, in fact, more frequently provided with screens in their own bedrooms and accumulate longer daily screen exposure than children living in higher-income households (Livingstone et al., 2015; Tandon et al., 2012). Higher-income, more-educated parents tend to favour what has been described as an "ethic of expressive empowerment," actively promoting offline activities and deliberately limiting bedroom screen access as part of a broader strategy of concerted cultivation (Clark, 2013; Livingstone et al., 2015). By contrast, lower-income parents—who more frequently experience time constraints and feel less confident in their own digital competence—are more likely to rely on screens as a form of supervised occupation, placing devices in children's bedrooms to keep them safely engaged while parents attend to domestic or work responsibilities (Livingstone et al., 2015). The result is a paradoxical inequality: the households with the least active parental mediation are also those in which children's unsupervised bedroom media use is most prevalent. This pattern carries direct implications for the distribution of digital risks and parental mediation capacity across socioeconomic groups, a dimension that will be taken up in subsequent sections of the literature review.

A related, if often overlooked, dimension of the domestic media environment concerns the role of older siblings as informal digital mediators. In lower-income households in particular, where parents may experience a sense of being outpaced by their children's digital abilities, older siblings frequently assume the function of primary digital guides for younger children, curating content, creating platform profiles on their behalf, and exercising a form of horizontal peer socialisation that partly substitutes for direct parental involvement (Livingstone et al., 2015). Qualitative evidence from seven European countries illustrated this dynamic vividly: in one Italian household, a twelve-year-old boy described how he had set up his seven-year-old sister's YouTube profile so she could navigate the platform safely without parental assistance, effectively acting as her content guardian in the absence of parental digital competence (Livingstone et al., 2015). Such sibling-mediated digital socialisation is consequential because it transfers agenda-setting power over children's early media experiences from parents to peers, with uncertain implications for the consistency and quality of protective mediation.

Taken together, these strands of evidence trace a trajectory from a single, shared television in the living room towards a dense, personalised and mobile media ecology in which screens are dispersed across the home and beyond (Livingstone, 2007b; Smahel et al., 2020). The structural possibility for continuous, private connectivity in children's bedrooms does not, by itself, determine outcomes, but it alters the baseline conditions under which parents and children negotiate rules, trust, and autonomy in relation to digital media (Livingstone & Blum-Ross, 2020). This historical and spatial reconfiguration of the domestic media environment provides the contextual foundation for subsequent sections of the literature review, which examine how online risks, problematic use and parental mediation unfold within this increasingly media-rich, yet unevenly supervised, domestic setting.

2.1.2 Children's screen time

The expansion of device access that has characterised children's media lives over the past years has been marked by a measurable increase in the time they spend on screens; yet the measurement and conceptual interpretation of this phenomenon remain among the most actively contested issues in the field. In its simplest form, screen time refers to the total time spent engaging with digital devices (Munzer et al., 2026). However, researchers have increasingly argued that this aggregate measure conflates qualitatively distinct activities—passive consumption, active content creation, social communication, interactive gaming, and

educational engagement—that carry substantively different developmental implications and cannot meaningfully be evaluated against a single normative standard (Munzer et al., 2026). Munzer et al. (2026) claim that the traditional duration-based notion of screen time captures only a surface-level picture of children's and families' actual experiences with devices, and that framing paediatric guidance around screen time alone is insufficient given the vastly more complex ecosystem of digital media use in which children are embedded. Consistent with this reconceptualisation, the field has shifted toward a differentiated account of digital engagement that distinguishes among the type of device used, the content consumed, the context of use—for instance, solitary versus joint media engagement—, and the interactivity of the experience, ranging from passive video streaming to cognitively demanding, minds-on digital participation (Munzer et al., 2026).

The reliability of self-reported screen time estimates is a further, well-documented source of methodological concern. Large-scale survey research in this domain has consistently demonstrated that children and parents hold systematically divergent accounts of the child's digital media use, with parents frequently underreporting younger children's usage and children tending to underestimate their own screen exposure due to the ambient, continuously connected character of much digital engagement in contemporary households. This condition reflects what Baron (2008) termed the "always-on" quality of modern mobile internet use. As a result, pervasive connectivity has become ingrained in the daily routines of young people; as Clark (2005) observed, being in "constant contact" with peers is now regarded as a normal and often taken-for-granted aspect of daily life. The *EU Kids Online 2020* survey (Smahel et al., 2020) documented that for most children across Europe the smartphone has become the primary means of going online, enabling "anywhere, anytime" connectivity, and that the average amount of time children spend online each day has nearly doubled in many countries compared with the 2010 wave of the same survey. These figures illustrate the scale of the increase, but they also expose a fundamental measurement challenge: because digital engagement in contemporary households is fragmentary, distributed across multiple devices, and frequently concurrent with other activities, children's self-reported estimates of their own online time are likely to be systematic underestimates (Livingstone & Smith, 2014; Taylor et al., 2024).

These measurement challenges are consequential not only for academic research but for the normative frameworks that shape parental behaviour and policy. Age-specific guidelines have been released by the World Health Organization and national paediatric organisations,

such as the American Academy of Paediatrics. These guidelines specify, for instance, that infants under the age of two should not use screens, and children between the ages of two and five should only use them for an hour per day (Taylor et al., 2024). These recommendations, however, have been criticised for favouring duration-based measurements over distinct estimates of context and content quality (Munzer et al., 2026; Taylor et al., 2024). A small but statistically significant benefit of adult-child co-use on children's learning from digital media was found in a systematic review and meta-analysis by Taylor et al. (2024), which synthesised data from 17 experimental studies involving a pooled sample of 1,288 typically developing children aged 0–6 years. These results imply that the extent to which parents actively participate in digital media use shapes children's developmental outcomes in addition to the amount of screen time children accumulate. Consistent with this perspective, the Royal College of Paediatrics and Child Health (2019) declined to recommend any universal numerical screen-time limits for children, arguing instead that more robust evidence is needed on the developmental effects of digital media before time-based guidelines can be justified. The aggregate and developmental dimensions of screen time thus provide the quantitative backdrop against which the qualitative transformation of children's digital lives must be read: it is not simply that children spend more time on screens, but that a growing share of that time is now spent on social media platforms. These are environments that introduce a qualitatively distinct set of social dynamics, identity pressures, and risk vectors.

2.1.3 Children's social media entry

One of the most consequential aspects of the digitalisation of childhood concerns the age when children first enter social media environments. Major social networking services such as Facebook, Instagram, TikTok, and Snapchat uniformly stipulate a minimum age of 13 years in their terms of service, a threshold grounded in regulatory frameworks like COPPA and Article 8 of the GDPR as well as in developmental considerations regarding informed consent for data processing (Smahel et al., 2020). However, large-scale survey data demonstrate that substantial proportions of children begin using social networking services before reaching this age, indicating that platform age limits function at best as a partially effective, easily circumvented gatekeeping mechanism rather than as a robust developmental safeguard (Smahel et al., 2020).

Evidence from the *EU Kids Online 2020* study shows that across participating European countries, non-negligible shares of 9–11-year-olds report visiting social networking sites on a daily basis, with country-level figures ranging from low double digits in some Western European contexts to around half of children in several Central and Eastern European settings (Smahel et al., 2020). Crucially, the authors report no clear association between the nationally selected "digital age of consent" under the GDPR and the prevalence of under-age social media use, suggesting that statutory age thresholds do not reliably delay children's social media entry and that de facto practices often diverge from de jure provisions (Smahel et al., 2020). In the United States, a recent policy statement by the American Academy of Pediatrics similarly notes that 38% of 8–12-year-olds report using social media and 64% watch online videos on a daily basis, while a majority of caregivers consider platform age-verification procedures too easy to bypass (Munzer et al., 2026). Against this backdrop, recent synthetic reviews of the digital parenting literature characterise early social media adoption in late childhood as a structural feature of contemporary childhood rather than as a deviant or marginal behaviour pattern (Tan et al., 2024).

The developmental significance of early social media entry lies not only in the formal violation of platform rules, but in the extended exposure window it creates within a sensitive period of socio-emotional development. Social media platforms embed children in algorithmically curated, highly interactive communication environments that differ qualitatively from both traditional broadcast media and offline peer interaction, combining opportunities for connection, learning and self-expression with increased exposure to cyberbullying, harmful or age-inappropriate content, sexualised messaging and contact with unknown adults (Livingstone & Smith, 2014; Smahel et al., 2020). Meta-analytic and policy syntheses converge on the conclusion that, at the population level, associations between social media use and internalising or externalising problems are generally small but statistically robust, and tend to be stronger in early adolescence, when reward sensitivity and peer orientation intensify before cognitive control has fully matured (Vannucci et al., 2020; Munzer et al., 2026). At the same time, there is consistent evidence that children's operational skills in navigating platforms far outpace their critical competences in evaluating information, recognising commercial or manipulative intent, and managing privacy, and that these higher-order skills are unevenly distributed across countries and social groups (Smahel et al., 2020).

Finally, emerging research on the intersection between social media use and parental digital awareness underscores that the conditions under which children enter and inhabit these environments are co-produced by platform architectures and family-level resources. Aksoy et al. (2025), studying adolescents with a history of sexual abuse, found that higher levels of internet addiction co-occurred with weaker social media privacy protection skills and lower digital parental awareness, and documented a negative correlation between parental awareness scores and adolescent internet addiction. Although their clinical sample is not representative, these findings align with broader conceptualisations of digital parenting, in which parents' capacity to understand platform affordances, communicate risks and model reflective digital practices shapes the degree to which early social media entry becomes a site of vulnerability or is instead scaffolded into more resilient and informed forms of participation (Livingstone & Helsper, 2008; Tan et al., 2024). In this sense, children's social media entry cannot be reduced to a simple chronological marker, but must be understood as a layered process at the intersection of regulatory frameworks, platform design, developmental timing and parental mediation. The following sections examine this configuration from the perspectives of digital attitudes, online risks and parental strategies.

2.2 Children's online risks, adverse experiences, and coping strategies

The rapidly expanding digital engagement of children is accompanied not only by new opportunities for learning, communication and participation, but also by a broadening spectrum of online risks and potential harms. Building on the risk–harm distinction developed in the *EU Kids Online* research programme, contemporary scholarship emphasises that children's encounters with problematic content, contact and conduct in digital environments are probabilistic exposures that may—but do not necessarily—translate into negative outcomes, depending on individual and contextual factors (Livingstone et al., 2011). This conceptual clarification is crucial for avoiding both alarmist overestimation of harm and complacent underestimation of children's vulnerability, and for designing policy and parenting responses that aim to manage rather than simply eliminate risk.

Within this framework, empirical studies across European and international contexts have documented that substantial proportions of children experience cyberbullying, exposure to sexual or otherwise disturbing content, unwanted contact from strangers and pressures to disclose personal data, with prevalence generally increasing across late childhood and early adolescence (Smahel et al., 2020). At the same time, children's coping strategies and

help-seeking behaviours in response to adverse online experiences are highly variable, ranging from active problem-focused responses (blocking, reporting, seeking adult support) to avoidance, minimisation and non-disclosure, the latter often leaving harms unaddressed and invisible in institutional statistics (Livingstone & Smith, 2014). The present section, therefore, examines, in turn, children's digital attitudes and critical media literacy (Section 2.2.1), the typologies and prevalence of online risks (Section 2.2.2), the transition from risk to harm in children's lived experiences (Section 2.2.3), the specific case of cyberbullying and other high-impact harms (Section 2.2.4), and finally, children's coping and help-seeking responses (Section 2.2.5).

2.2.1 Children's digital attitudes and critical media literacy

Across contemporary media environments, children's orientations toward digital technologies are consistently characterised by a predominantly positive evaluative stance that far exceeds their awareness of associated risks. Large-scale European surveys reveal that the majority of children perceive the internet as offering more advantages than disadvantages and report high levels of enjoyment and perceived usefulness, even in contexts where exposure to online risks is relatively common (Livingstone et al., 2011). This attitudinal pattern is reinforced by the integration of digital technologies into schooling, leisure, and peer communication, which collectively normalise digital engagement as an integral and largely unquestioned component of everyday life.

However, this generalised positivity towards digital media stands in marked contrast to the comparatively limited development of children's critical media literacy. Research consistently shows that while many children are technically adept at navigating devices and platforms—installing applications, managing accounts, switching between platforms—they often struggle to evaluate the credibility, commercial intent and potential manipulability of the content they encounter online (Livingstone & Smith, 2014; Smahel et al., 2020). Many are unable to articulate criteria for judging reliability or to distinguish advertising, influencer marketing and user-generated content in a systematic way (Livingstone et al., 2011). Such findings underpin concerns that children's operational fluency with digital environments may be easily conflated—by adults and children alike—with deeper forms of critical literacy that are, in fact, only partially developed.

Theoretical and policy frameworks on digital competence make this distinction explicit by differentiating among operational, critical and social dimensions of digital skills. The

DigComp 2.2 framework, for example, conceptualises digital competence as encompassing information and data literacy, communication and collaboration, digital content creation, safety, and problem-solving in digital environments (Vuorikari et al., 2022, p. 4, 7). A similar distinction is emphasised in Hungarian media-education scholarship, where media and information literacy are conceptualised as extending beyond technical competence to include the critical evaluation of information and media content, credibility, communicative intentions, and reflective participation (Szőke-Milinte, 2020). Empirical reviews indicate that children tend to acquire basic operational skills (such as device handling and navigation) at relatively early ages, whereas higher-order competences involving source evaluation, understanding algorithms, recognising persuasive design, and managing privacy develop later, require explicit instruction and are unevenly distributed across social groups (Livingstone & Smith, 2014; Tan et al., 2024). Socioeconomic gradients are particularly evident: children from more advantaged backgrounds are more likely to benefit from home and school environments that explicitly cultivate critical interpretation of online information, whereas disadvantaged children are more often left to their own devices, both literally and figuratively, in making sense of complex digital ecologies (Nielsen et al., 2019).

From the perspective of online risks and adverse experiences, this imbalance between positive attitudes, strong operational skills and weaker critical literacy is non-trivial. Children who are confident and enthusiastic internet users but lack robust critical competences may be particularly susceptible to misleading health information, extremism, commercial exploitation, data-harvesting practices, and manipulative platform features designed to maximise engagement (Chen & Shi, 2019; Rega et al., 2022). In this sense, the same capacities that enable children to explore and actively participate in digital spaces also expose them to greater risks of content, contact, and conduct, the implications of which they are not yet fully equipped to appraise. Consequently, contemporary digital parenting and educational interventions increasingly emphasise not only the restriction or monitoring of children's online activities, but also the deliberate cultivation of critical media literacy as a protective and enabling resource in managing online risks and harms (Tan et al., 2024).

2.2.2 Online risks: typologies, prevalence, and age gradients

A foundational contribution of the *EU Kids Online* research programme to the field has been the systematic conceptualisation and classification of the online risks to which children are exposed. Drawing on a three-part typology first elaborated in the context of internet-

mediated harms, risks are organised according to whether children encounter them as recipients of *content* (e.g., pornographic, violent, hateful, or pro-eating-disorder material), as targets of *contact* (e.g., unwanted communication from strangers, sexual solicitation, grooming), or as participants in *conduct* (e.g., cyberbullying perpetration or victimisation, sexting, data disclosure under social pressure) (Livingstone et al., 2011; Tan et al., 2024). More recently, scholars have proposed extending this typology with a fourth dimension—*contract* or *commercial risks*, encompassing data harvesting, manipulative advertising and algorithmic profiling—to account for forms of exploitation that are less visible but structurally embedded in the design of contemporary platforms (Smahel et al., 2020). This four-part framework has proved particularly durable because it avoids conflating the subjective experience of harm with the objective exposure to risk, thereby allowing for the separate examination of incidence, perceived severity and downstream consequences (Smahel et al., 2020).

Prevalence data from the *EU Kids Online 2020* survey—covering 25,101 children aged 9 to 16 across 19 European countries—document that substantial minorities of children encounter each of these risk categories on a recurring basis. Concerning content risks, hate messages constituted the most frequently reported form of potentially harmful content: across countries, 17% of children between the ages of 12 and 16 reported seeing hateful content at least monthly, followed by gory or violent images (13%), content promoting extreme thinness (12%), content describing drug use (11%), material depicting self-harm (10%), and content related to suicide (8%). Exposure to sexual content was also widespread: between 21% (in France) and 50% (Serbia) of children aged 9–16 reported having seen some sort of sexual image in the previous year, with boys and older children being more frequently exposed. Regarding contact risks, between one in four and one in two children across the participating countries had interacted online with someone they had never met in person, while approximately one in six had subsequently met such a person offline. The experience of unwanted sexual requests—a more severe form of contact risk—was particularly pronounced among older girls (Smahel et al., 2020).

Conduct risks present a similarly complex picture. According to the EU Kids Online 2020 survey, in the majority of countries, less than 10% of children reported experiencing online bullying as victims on a monthly basis, and less than 5% reported perpetrating such bullying on a monthly basis. These figures reflect what appears to be a genuine lower bound, but they mask the cumulative proportion who have ever experienced cyberbullying victimisation,

which is consistently higher across a range of European national surveys (Paat & Markham, 2021). Regarding sexting—a behaviour that can simultaneously constitute a conduct risk and an opportunity depending on context—the percentage of 12-16-year-olds who reported receiving a sexual message within the previous year varied from 8% in Italy to 39% in Flanders, with older children and those identifying as girls being disproportionately subjected to unwanted sexual requests (Smahel et al., 2020).

A consistent and theoretically important finding across the *EU Kids Online* data concerns the age gradient in risk exposure. Almost without exception, the prevalence of online risk encounters—whether of content, contact or conduct type—rises with age, with 15-16-year-olds reporting substantially higher exposure than 9- to 11-year-olds. Children in the eldest age range also spend approximately twice as much time online as their youngest counterparts, with daily online time rising from a cross-country average of approximately 74–180 minutes among 9- to 11-year-olds to around 180–270 minutes among 15- to 16-year-olds. Digital skills, peer social pressure, and reduced parental oversight each contribute to this age-related escalation in risk exposure (Smahel et al., 2020; Tan et al., 2024).

Nevertheless, it is crucial to contextualise these prevalence figures in relation to the broader risk ecology in which children operate. Paat and Markham (2021) describe this ecology as characterised by the co-occurrence and mutual amplification of multiple risk forms: children who are victimised through cyberbullying are more susceptible to exposure to sexually explicit material, to engage in sexting under coercion, and to experience data misuse, suggesting that risks are not isolated but often cluster within individual trajectories of online experience. Furthermore, technology-facilitated sexual violence—including sextortion, image-based sexual exploitation, and online sexual harassment—represents an important and frequently underreported dimension of the contact and conduct risk landscape for older adolescents, with young women being disproportionately affected across empirical studies (Henry & Powell, 2016). Crucially, within this landscape, a substantial proportion of children who experience online risks do not disclose them to parents or other adults, meaning that survey-based prevalence data are likely to underestimate the actual scope of adverse online experiences (Smahel et al., 2020).

2.2.3 From risk to harm: the risk-harm distinction and children's adverse online experiences

A central conceptual move in contemporary research on children's online experiences is the distinction between risk and harm. In this framework, *risk* refers to situations or conditions that carry a potential for negative outcomes—such as exposure to sexual images, contact with unknown adults, or involvement in online aggression—without presuming that such exposure will necessarily have adverse effects for every child (Livingstone et al., 2011). As Livingstone and Smith (2014) put it, risk is "a calculation based on probability and the likely consequences of harm, and usually studied in terms of exposure to potentially harmful phenomena such as pornography or hostile messages" (p. 636). *Harm*, by contrast, designates those online experiences that children themselves experience as upsetting, distressing or damaging (e.g. feeling scared, ashamed, or unable to sleep), as well as longer-term psychological, social or functional consequences (Livingstone & Smith, 2014). It is "a distinct and negative outcome, whether measured objectively or, more usually, through subjective self-report" (p. 636). This distinction is analytically important because it allows researchers to avoid both over-pathologising all risk exposure and under-estimating the seriousness of those cases in which risk does culminate in significant harm.

The *EU Kids Online 2020* survey (Smahel et al., 2020) operationalises harm in explicitly child-centred terms by asking 9-16-year-olds whether, in the previous year, "anything EVER happened online that bothered or upset you in some way (e.g., made you feel upset, uncomfortable, scared or that you shouldn't have seen it)". Across 19 European countries, between 7% (Slovakia) and 45% (Malta) of children answered "yes", with an overall average of approximately one in four reporting at least one such adverse online experience during the previous year. Importantly, these proportions are typically lower than the prevalence of specific online risks such as sexting, meeting new people online or exposure to potentially harmful content, indicating that many risk encounters do not translate into subjectively experienced harm. In other words, while risk exposure is common, only a subset of these experiences is appraised by children as sufficiently distressing to be labelled as harm, and an even smaller subset leads to enduring psychological or social difficulties (Livingstone & Smith, 2014).

The same data, however, also show that the burden of harm is unevenly distributed among children (Smahel et al., 2020). The proportion of children who report that something online has bothered or upset them increases with age, with 15-16-year-olds being markedly more

likely than 9-11-year-olds to provide at least one negative online experience in the past year (average age difference around 14 percentage points). Gender differences are more modest but become visible in some national contexts, with girls in countries such as Malta and Switzerland exceeding 40% in self-reported negative online experiences and often reporting greater emotional distress following exposure to sexual or body-related content (e.g. thinspiration). Beyond self-reported "bother" or "upset", longitudinal and review studies link particular forms of online harm—especially cyberbullying victimisation and technology-facilitated sexual harassment—to elevated risks of depression, anxiety, psychosocial maladjustment, suicidal ideation and self-harm among adolescents (Paat & Markham, 2021; Henry & Powell, 2016). These findings underline that, for a vulnerable subgroup of young people, online harms form part of a broader pattern of cumulative risk and compromised mental health.

A further layer of complexity concerns disclosure and invisibility. *EU Kids Online 2020* shows that among children who report being bothered or upset by something online, between 4% (France) and 30% (Estonia) tell no one about the experience, while most of the remainder turn primarily to parents and friends rather than teachers or professional helpers. Children also employ a variety of coping mechanisms, from shutting the window or blocking the perpetrator to ignoring the incident or internalising blame. These responses are differentially associated with the persistence or attenuation of harm (Smahel et al., 2020; see also 2.2.5). Qualitative work indicates that what children choose to label as "bothering" or "upsetting" spans a continuum from relatively minor frustrations (e.g., technical problems) to serious violations such as sexual harassment, non-consensual image-sharing and sustained cyberbullying (Livingstone et al., 2013). Taken together, these patterns suggest that survey-based prevalence figures—although methodologically rigorous—likely underestimate the true scope of harmful experiences, especially for those children who are least willing or able to disclose what has happened to them (Livingstone & Smith, 2014).

2.2.4 High-impact online harms

High-impact online harms are those digital risks that are particularly likely to result in substantial psychological distress or lasting psychosocial consequences, including cyberbullying victimisation, technology-facilitated sexual abuse, non-consensual image sharing, sextortion, and online grooming. Building on the previously introduced distinction between risk and harm, these phenomena are understood as situations where exposure to risk

is more likely to materialise in intense or prolonged harm for a subset of children and adolescents. Recent overviews stress that such harms rarely occur in isolation, but rather cluster together and often co-occur with offline victimisation and relational difficulties (Machimbarrena et al., 2018; Paat & Markham, 2021).

Cyberbullying represents one important form of high-impact online harm, but it is only one component of a broader digital risk constellation. Empirical clustering analyses among Spanish adolescents, for example, show that cyberbullying victimisation is the most prevalent single online risk (approximately 30%), yet a considerable proportion of youth simultaneously experience cyberbullying together with grooming and/or sexting; approximately 7% fall into a profile characterised by combined cyberbullying–sexting–grooming exposure, and around 5% report all assessed risks at once (Machimbarrena et al., 2018). These findings underline that high-impact harms should be conceptualised in terms of comorbidity and cumulative burden, rather than as separate, independent categories. They also indicate that a relatively small but non-negligible subgroup of adolescents is exposed to multiple, overlapping digital harms.

Technology-facilitated sexual harms, such as *non-consensual pornography* and *image-based sexual abuse*, have attracted particular concern due to their severe mental-health impact. Qualitative interviews with female survivors of so-called "revenge porn" demonstrate that the sharing of intimate photos without consent is experienced as a profound violation of trust and bodily autonomy, and is associated with symptoms consistent with depression, anxiety, post-traumatic stress disorder, suicidal thoughts, and long-term disruptions in sleep, work, and intimate relationships (Bates, 2016). Survivors frequently describe enduring shame, fear that images may resurface at any time, and a pervasive sense of loss of control, which closely parallels patterns described in the sexual-assault literature (Bates, 2016; Smith et al., 2023). Similar symptom profiles are reported in broader reviews of image-based sexual abuse, which conclude that non-consensual intimate images constitute a form of sexual violence with recurring, cumulative mental-health effects (McGlynn et al., 2017).

Sexting, understood as the exchange of sexually explicit digital images or messages, illustrates the ambivalent nature of online sexual communication. On the one hand, research shows that adolescents often engage in consensual sexting as a symbol of intimacy, love, and trust within romantic or dating relationships, and that in such contexts it may be

experienced as a normal part of sexual exploration (Van Ouytsel et al., 2016). On the other hand, sexting can be accompanied by pressure from partners or peers, is linked to other risk behaviours such as unprotected sex, and carries a significant potential for harm when images are forwarded without consent or used for coercion and extortion (Machimbarrena et al., 2018). Reviews emphasise that the same practice can function as either an opportunity or a serious harm, depending on the relational context, the presence of coercion, and the subsequent circulation of images.

Online grooming by adults constitutes another high-impact harm, particularly for younger adolescents. Grooming typically involves a series of phases in which an adult abuser gradually establishes contact, builds trust, introduces sexual content, and isolates the minor from potential sources of support, with the ultimate aim of obtaining sexual images or arranging offline contact (Paat & Markham, 2021). Case studies of the experiences of young women in England show that grooming often begins with seemingly non-sexual, supportive interactions on social media and only later progresses to controlling, aggressive, and coercive sexual demands, including requests for nude images and in-person meetings (Smith et al., 2023). Victims in these studies describe strong feelings of confusion, self-blame, and fear, and report significant barriers to disclosure, such as shame and concerns that adults will not understand the online dynamics (Smith et al., 2023; Paat & Markham, 2021).

Across these different domains, converging evidence indicates that high-impact online harms are associated with a wide spectrum of negative outcomes, including internalising symptoms, substance use, relational difficulties, and impaired quality of life (Machimbarrena et al., 2018; Nixon, 2014). At the same time, the clustering of harms in small but highly burdened subgroups, together with the ambivalent nature of some practices such as sexting, highlights the importance of nuanced, developmentally informed approaches to measurement and intervention. Rather than treating all digital risks as uniformly harmful, the literature calls for attention to comorbidity profiles, relational and gendered power dynamics, and the broader socio-digital ecologies in which adolescents' online lives are embedded (Machimbarrena et al., 2018; Paat & Markham, 2021).

2.2.5 Children's help-seeking and coping strategies

Children do not respond to negative online experiences uniformly; rather, their coping strategies range from avoidance and technical self-protection to interpersonal disclosure and formal reporting (Smahel et al., 2020; Livingstone & Smith, 2014). This variation matters

because the consequences of online risk depend not only on exposure itself, but also on children's perceived competence, available support, and the context in which the experience occurs (Livingstone, 2007b).

EU Kids Online 2020 shows that most children report at least some confidence in knowing what to do when someone acts online in a way they do not like, but this confidence is clearly age-related (Smahel et al., 2020). Across countries, between 26% and 49% said they always know how to react, while between 6% and 29% said they never know what to do; older children were consistently more likely than younger ones to report coping confidence (Smahel et al., 2020). This suggests that coping is partly developmental and linked to the gradual acquisition of digital and social skills (Stašová, 2015).

When children are bothered or upset online, they most often turn either to parents or to friends of a similar age, while teachers and helping professionals are consulted far less frequently (Smahel et al., 2020). On average across countries, 40% talked to a mother or father and 50% to a friend, compared with only 5% who talked to a teacher and 3% who sought help from a professional; importantly, 19% did not talk to anyone at all (Smahel et al., 2020). These findings point to a clear help-seeking gap in which a substantial minority of children manage negative online experiences without adult or formal support. The most common coping responses are also relatively low-threshold. *EU Kids Online 2020* found that, on average, 34% ignored the problem, 36% closed the window or app, 34% blocked the person, 14% changed privacy or contact settings, and 12% reported the problem online (Smahel et al., 2020). Such strategies may be sufficient in lower-impact situations, but the literature indicates that they are less adequate in cases involving repeated victimisation, coercion, or more serious harm, where adult support becomes more important (Livingstone & Smith, 2014; Paat & Markham, 2021).

The likelihood that children disclose upsetting experiences is closely related to the family communication climate and the form of parental mediation available to them. Research on parental mediation suggests that children are more likely to seek help in environments where discussion, explanation, and shared interpretation are normalised, rather than in households relying mainly on control or restriction (Livingstone & Helsper, 2008; Livingstone & Blum-Ross, 2020). This is consistent with work arguing that parents function not only as regulators but also as early guides in media literacy and meaning-making (Stašová, 2015; Rode, 2009).

Overall, the literature suggests that coping with online risk is a relational and developmental process rather than a purely individual skill (Smahel et al., 2020; Livingstone & Smith, 2014). Children's help-seeking decisions are shaped by age, self-efficacy, the seriousness of the incident, and the communicative quality of the family context, which provides a direct bridge to the following sections on parental attitudes and mediation practices (Livingstone & Helsper, 2008; Kutrovátz, 2021). Taken together, the findings in this chapter indicate that children's online safety cannot be reduced to individual incidents or isolated coping strategies, but must be understood within a broader, relational digital ecology. Within this ecology, some children move from occasional negative experiences towards more enduring patterns of dysregulated engagement, often described as excessive or problematic internet use, with potential implications for their social, emotional and academic well-being. The next chapter therefore shifts focus from discrete risks and immediate coping to problematic internet use and social media well-being.

2.3 Children's problematic internet use and social media well-being

Building on the preceding overview of children's online risks, harms and coping, this section narrows the focus from discrete negative incidents to more enduring patterns of dysregulated digital engagement. Rather than treating time spent online as inherently problematic, contemporary research emphasises problematic internet use (PIU) and problematic technology use (PTU) as conditions defined by loss of control, preoccupation, and functional impairment in social, emotional or academic domains. At the same time, social media platforms have become central arenas for adolescents' peer interaction, identity work and social comparison, prompting intense debate about their implications for young people's well-being. Section 2.3.1 therefore clarifies conceptual and measurement distinctions between "excessive use", PIU and addiction frameworks, Section 2.3.2 examines PTU in children and the protective role of parental mediation, and Section 2.3.3 reviews evidence on the complex, often small but meaningfully moderated associations between social media use and adolescent well-being across different cultural and regional contexts.

2.3.1 Excessive and problematic internet use

In this subsection, excessive internet use is treated as a concept analytically adjacent to, but narrower than, *problematic internet use (PIU)*, and clearly distinct from clinical addiction. Earlier research conceptualised PIU not as high exposure alone, but as a pattern involving

cognitive preoccupation, impaired control, mood regulation through online engagement, and continued use despite negative consequences (Caplan, 2002; Caplan, 2010). In this sense, excessive use functions here as a bridge category: it marks the point at which intensive digital engagement becomes analytically relevant not simply because of duration, but because it may indicate dysregulation with consequences for everyday functioning (Livingstone & Smith, 2014; Dahl & Bergmark, 2020a).

This distinction is important because high engagement alone is often automatically pathologised. However, building on the risk–harm logic discussed earlier, the issue is not whether children spend many hours online per se, but when intensity of use begins to interfere with family life, school responsibilities, peer relations, or emotional self-regulation (Livingstone & Smith, 2014; Smahel et al., 2020). Review evidence also supports separating duration-based and dysfunction-based measures: excessive time online and PIU are related, but they are not identical outcomes, and conflating them risks collapsing ordinary high engagement into more serious forms of dysregulated use (Tan et al., 2024; Dahl & Bergmark, 2020b).

For this reason, criteria-based indicators are more informative than raw duration measures when the aim is to identify problematic rather than merely frequent use. Caplan's cognitive–behavioural model and related PIU measures focus on symptom clusters such as preoccupation, loss of control, conflict, and functional impairment rather than on hours spent online alone (Caplan, 2002; Caplan, 2010). A similar logic informs *EU Kids Online*, which operationalises excessive internet use through five Griffiths-based criteria (salience, mood modification, withdrawal, conflict, and relapse) and classifies only the most serious cases when all five are reported at least weekly (Smahel et al., 2020). This produces a much more restrictive estimate than looser time-based definitions: in *EU Kids Online 2020*, only a very small minority of children across participating countries met all five criteria, despite widespread daily internet use (Smahel et al., 2020).

At the same time, excessive internet use is also shaped by competing public and scholarly narratives. Popular accounts such as Haidt's *The Anxious Generation*, Alter's *Irresistible*, and Kardaras' *Glow Kids* present different but overlapping interpretations of intensive digital use: as a feature of a broader "phone-based childhood," as an outcome of persuasive platform design, or as a form of screen dependency framed through addiction metaphors (Alter, 2017;

Haidt, 2024; Kardaras, 2016). These accounts are important as influential narratives that shape public concern, policy debate, and parental interpretations of children's media use.

By contrast, higher-level empirical syntheses generally offer a more cautious account. Umbrella reviews and meta-analytic evidence suggest that associations between general social media use and adolescent well-being are typically small, mixed, and strongly moderated by developmental, relational, and contextual factors, whereas more consistent negative associations are found for problematic or compulsive forms of use rather than for use intensity alone (Appel et al., 2020; Odgers & Jensen, 2020; Sala et al., 2024). Accordingly, the present dissertation does not seek to adjudicate between competing public narratives. Instead, it adopts a conceptually precise and measurement-sensitive position in which excessive use is interpreted primarily through indicators of dysregulation and functional impairment, not through duration alone and not through automatic recourse to addiction language.

Taken together, these distinctions justify moving from a broad online risk framework toward the more specific problem of dysregulated use. Excessive use is analytically useful because it captures the zone between ordinary digital participation and stronger claims of problematic or addiction-like behaviour. The next subsection therefore turns from excessive internet use in general to problematic technology use (PTU) in children and to the role of parental mediation in relation to it.

2.3.2 Problematic technology use and the protective role of parental mediation

Building on the bridge function of excessive use established above, this subsection shifts from intensity of engagement to a more explicitly dysfunction-oriented construct: *problematic technology use (PTU)*. Like problematic internet use, problematic technology use is defined not by duration but by a recurring cluster of symptoms—preoccupation, diminished control, conflict, and continued use despite negative consequences—together with functional impairment in social, emotional, or academic domains (Munzer et al., 2026; Zhang et al., 2025). PTU can be understood as the device- and platform-broadened relative of PIU, particularly suited to the contemporary childhood ecology of smartphones, tablets, gaming, and social media, where dysregulated patterns rarely map onto a single application (Yildirim et al., 2025). Framing the problem this way directs attention away from how much children use technology and toward whether that use can be regulated, and through what relational and parental scaffolding (Tan et al., 2024).

A recurrent finding in the literature is that, although PTU is measured heterogeneously, parental mediation emerges as one of its most important environmental predictors (Tan et al., 2024). The relationship, however, is neither uniform nor unidirectional. Restrictive forms of mediation tend to protect younger children against problematic use, but their effectiveness diminishes with age and can provoke resistance in adolescents, who may respond by increasing rather than moderating their use (Tan et al., 2024; Livingstone & Helsper, 2008). At the same time, parents' own modelling of technology use and the quality of their relationship with their children help explain why mediation translates into lower or higher levels of problematic engagement, indicating that PTU is not only a matter of technical control but also a relational outcome (Zhang et al., 2025). These nuances suggest that the type of mediation alone has limited explanatory power, and that what parents know and how they relate to their children matters as much as the rules they impose.

This is where the broader concept of digital parenting becomes relevant, since it should not be reduced to time limits or surveillance. Rather, it is a multidimensional framework integrating cognitive (awareness), behavioural (rule-setting and monitoring), affective (trust and empathy), and ethical (privacy and responsibility) dimensions, situated within ecocultural and transactional models of development (Bayar et al., 2025; Benedetto & Ingrassia, 2020; Yildirim et al., 2025). In practice, this framework is commonly organised around two attitudinal domains: behavioural attitudes, which encompass rules, restrictions, and control, and relational attitudes, which emphasise open communication, trust-building, and emotional connection (Livingstone & Blum-Ross, 2020; Toran et al., 2024). Understood in these terms, parental mediation is not merely a constraint on screen time but a protective response to an engagement-based digital ecosystem deliberately optimised to capture and prolong children's attention (Munzer et al., 2026).

Two qualifications frame how this evidence should be interpreted. First, the protective contribution of parental regulation is age-graded: control-based strategies lose traction as children move into adolescence, when relational approaches tend to gain comparative importance (Tan et al., 2024; Livingstone & Helsper, 2008). Second, much of the evidence linking digital parenting to children's outcomes is cross-sectional and based on parental self-report, and meta-analytic syntheses indicate that associations between digital parenting and children's negative digital well-being, while genuine, are typically small to moderate and vary by mediation type (Tan et al., 2025; Yildirim et al., 2025). Consistent with the cautious position adopted in the previous subsection, PTU is therefore treated here as a meaningful

but non-deterministic outcome, shaped by parental awareness and attitudes without warranting recourse to addiction rhetoric. The parental side of this dynamic—how parents understand their role and which strategies they actually employ—becomes the focus of the chapters that follow, which turn first to the dispositions underlying digital parenting and then to the specific mediation strategies through which it operates. Before that, however, the next subsection turns from PTU and its moderators to the more complex, culturally moderated associations between social media use and adolescent well-being.

2.3.3 Social media and adolescent well-being: a global and cross-cultural perspective

Having examined problematic technology use and its parental moderators, this subsection turns to the broader and more contested question of how social media use relates to adolescent well-being. The most consistent message from higher-level syntheses is one of restraint: associations between general social media use and well-being are typically small in magnitude, mixed in direction, and heavily moderated, with positive, negative, and null findings coexisting across studies (Appel et al., 2020; Odgers & Jensen, 2020; Tan et al., 2025). Crucially, this restraint reflects a distinction already developed in this chapter: literature shows that what matters is less the quantity of use than its quality and function. More consistent negative associations emerge for problematic or compulsive patterns of engagement than for use intensity as such, while self-reported screen time remains a weak proxy that collapses socialising, learning, and identity work into a single undifferentiated measure (Tan et al., 2025; Munzer et al., 2026; Ghai et al., 2022). The small average effects therefore conceal substantial heterogeneity, moderated by developmental stage, gender, baseline mental health, the type of use, and the surrounding relational context, including the parental dimension established in the previous subsection (Odgers & Jensen, 2020; Jensen et al., 2021).

A further limitation is that this already inconclusive evidence base is strongly skewed toward the Global North. Although most of the world's adolescents live in the Global South, roughly seventy per cent of the studied samples originate in the Global North, so findings from North American and European populations cannot be generalised, given the marked socio-economic and contextual differences between settings (Ghai et al., 2022). Context is not merely a confound here but a constitutive feature of the phenomenon: culturally specific moderators such as collectivist values, gendered access norms, and persistent connectivity gaps reshape how social media use relates to well-being across regions, producing both

distinctive benefits and distinctive harms (Ghai et al., 2022). This unevenness extends to Central and Eastern Europe (CEE), which—alongside the Global South—remains underrepresented in the social media and well-being literature. Cross-national surveys such as *EU Kids Online* offer a partial window into European adolescents, but region-specific and longitudinal evidence for CEE contexts remains limited, leaving an empirical gap that this dissertation later seeks to address (Smahel et al., 2020; Ghai et al., 2022).

Taken together, the relationship between social media use and adolescent well-being is best understood not as a single universal effect but as a set of small, strongly moderated, and culturally embedded associations, within which problematic use is more reliably linked to poorer outcomes than mere intensity of use (Tan et al., 2025; Ghai et al., 2022; Munzer et al., 2026). Consistent with the position adopted throughout this chapter, the analysis therefore favours a criteria-based, function-oriented, and context-sensitive account over monocausal or alarmist claims. Among the moderators identified here, the parental dimension is of central concern for the present work, motivating the closer examination of parental attitudes, digital parenting, and mediation that follows.

2.4 Parenting in the digital era: styles, awareness, and the parent-child relationship

Whereas the preceding sections approached problematic technology use and adolescent well-being primarily from the perspective of the child—treating parental mediation as a moderating or mediating variable that conditions developmental outcomes (see 2.3.2; 2.3.3)—the present chapter reverses the analytical lens and foregrounds the parent as the principal architect of the child's digital ecology. This shift is conceptually warranted: contemporary scholarship increasingly conceives of parenting in connected households not as a discrete set of restrictive acts, but as a continuous, multidimensional practice through which parents understand, support, and regulate their children's engagement with digital environments (Benedetto & Ingrassia, 2020; Smahel et al., 2020). Understanding how parents shape this ecology—and why their strategies vary so markedly—requires moving beyond behavioural typologies toward the awareness, dispositions, and competencies that underlie parental action.

The chapter advances from descriptive frameworks toward explanatory, mechanism-level constructs across four steps. Section 2.4.1 establishes the concept of digital parenting, situating it as a digital reconfiguration of traditional parenting and introducing parental

mediation theory as its principal theoretical scaffold. Section 2.4.2 narrows the focus to Digital Parental Awareness (DPA) as a measurable construct, examining its four-component model and its empirical links to child and relational outcomes. Section 2.4.3 intersects this digital-specific literature with the classical Baumrindian typology of parenting styles, considering how authoritative, permissive, and neglectful orientations are reconfigured in digital contexts. Finally, Section 2.4.4 turns to the affective and dispositional substrate of parental practice—parental digital self-efficacy and risk perception—drawing on dual-process accounts of risk to explain why mediation choices are so frequently shaped by feeling rather than calibrated assessment. Together, the four sections trace a path from what parents do, through what they are aware of, to why they act as they do.

2.4.1 Digital parenting: concept, dimensions, and theoretical framing

Digital parenting is best understood not as a novel parenting paradigm but as the extension of classical parental functions—care, regulation, and socialisation—into the digital domain. It is commonly described as the practices and efforts through which parents seek to understand, regulate, and support their children's online activities, with parents positioned as mediators of the digital experiences of their children (Benedetto & Ingrassia, 2020). On this view, the connected household does not displace established developmental tasks so much as add a new arena in which they must be performed; the parent's enduring role as gatekeeper, teacher, and facilitator is recast for a media ecology in which access is ubiquitous, and content is non-linear.

The principal theoretical scaffold for this literature is parental mediation theory, which originated in research on television and was subsequently extended to digital media. In its classical formulation, *parental mediation* denotes "any strategy parents use to control, supervise, or interpret content" for children (Warren, 2001, p. 212), and is conventionally organised around three core strategies: active mediation, restrictive mediation, and co-use or co-viewing (Nikken & Schols, 2015). Restrictive mediation comprises the rules and limits parents impose on the amount, timing, and content of media use; active mediation involves evaluative or instructive conversation intended to cultivate critical interpretation; and co-use refers to the shared consumption of media. Livingstone (2007b) similarly situates parental practices along a continuum from parent-child co-viewing, which is comparatively open and non-directional, to more restrictive or controlling methods, observing further that parental regulation of the internet is more hesitant than television mediation, because parents

frequently lack expertise and perceive their children as already more competent than themselves. This perception has direct implications for the self-efficacy dynamics examined in Section 2.4.4.

Building on this inherited typology, in a survey of Dutch parents of 2- to 12-year-old children, Nikken and Schols (2015) discovered that in addition to the well-known techniques of restrictive mediation, active mediation, and co-use, parents of young children also employ two digital-specific strategies: supervision and technical safety guidance. Their analysis further showed that mediation is predicted principally by the number of devices in the home, the parents' gender, education, and digital skills, as well as the child's age and online behaviour. They also found that parents use more mediation when they anticipate positive effects from the internet and, more strongly, when they anticipate negative ones (Nikken & Schols, 2015). This expanded typology underscores that digital parenting is not a simple transposition of television-era practices but a qualitatively richer repertoire shaped by the affordances of connected devices.

A further conceptual advance concerns the recognition that digital parenting is inherently multidimensional, encompassing not only the regulation of the child's media use but the parent's own digital conduct as well. The umbrella review by Tan et al. (2024) organises the field around three components: parental technology use, parental mediation of the child's media use, and parental modelling, which is the implicit transmission of norms through the parents' observable behaviour. This framing makes explicit that a parent's screen practices function as a developmental input in their own right, independent of any deliberate regulatory act, and that the coherence between what parents prescribe and what they model is itself consequential for children's digital socialisation (Tan et al., 2024). This concern is not specific to any single typology: a systematic review of how digital parenting has been measured across 145 quantitative and 49 qualitative studies likewise concludes that prevailing instruments capture observable strategies more readily than the broader competences and orientations underlying them, and calls for a more comprehensive approach to measurement (Modecki et al., 2022).

Taken together, these typological and dimensional frameworks offer a robust description of what parents do in digital contexts, yet they remain largely behavioural: they catalogue strategies without fully capturing the underlying awareness and competence that generate them. One recent approach to this broader dispositional layer is the concept of digital

parental awareness (DPA) (Bayar et al., 2025; Yildirim et al., 2025), introduced briefly in the following subsection. In the present dissertation, DPA serves as a theoretical reference point for understanding the knowledge, awareness, and orientations that may underlie parental practices rather than as a construct directly operationalised in the empirical analysis.

2.4.2 Digital parental awareness (DPA)

Digital parental awareness (DPA) is a recent construct intended to capture parents' knowledge, awareness, and practices in relation to their children's digital lives. Recent operationalisations distinguish parents' capacity to support efficient and beneficial technology use from their capacity to protect children from digital risks, while a four-component formulation additionally incorporates digital negligence and negative parental role modelling (Bayar et al., 2025; Yildirim et al., 2025). The conceptual relevance of DPA for the present dissertation lies in directing attention beyond discrete mediation behaviours towards the broader parental dispositions and competences within which such practices are embedded. Recent work has also examined whether digital parental awareness is related to child outcomes through behavioural and relational parental processes, suggesting a possible link between the dispositional and behavioural levels of digital parenting (Yildirim et al., 2025).

At the same time, the empirical evidence base for DPA remains comparatively limited. The studies reviewed here are cross-sectional and are concentrated in a single national context, including research involving parents of preschool-age children, which limits their generalisability across developmental stages and cultural settings (Bayar et al., 2025; Yildirim et al., 2025). Moreover, the questionnaire used in the present dissertation does not directly operationalise DPA through a validated composite measure. Instead, it examines several theoretically related dimensions separately, including parents' digital attitudes, perceived capacity to support their children in managing online risks, risk perceptions and concerns, and reported mediation practices. DPA is therefore retained as a theoretical reference point within the literature-informed conceptual framework rather than treated as an empirically tested construct in the present study. Its direct operationalisation and validation in other developmental and cultural contexts constitute an important direction for future research.

2.4.3 Parenting styles and digital parenting: multidimensional intersections

These digital-parenting dispositions do not operate in a vacuum; they are embedded within parents' broader, pre-digital orientations toward childrearing. Baumrind's typology, which distinguishes between authoritarian, authoritative, and permissive parenting styles, is the most influential explanation of these orientations (Baumrind, 1991). Later, Maccoby and Martin rethought this typology by classifying parenting styles according to two underlying dimensions: demandingness and responsiveness. This led to the creation of four distinct styles: indulgent (low demandingness and high responsiveness), authoritarian (high demandingness and low responsiveness), authoritative (high demandingness and high responsiveness), and neglectful (low demandingness and low responsiveness) (Maccoby & Martin, 1983, as cited in Kuppens & Ceulemans, 2019). Across the wider developmental literature, the authoritative style—combining warmth with consistent, autonomy-respecting control—is generally linked with the most positive child outcomes, and the present section asks how these enduring orientations intersect with parents' specifically digital practices.

A first and somewhat counterintuitive observation is that general parenting style may matter as much as, or more than, digital-specific mediation for children's outcomes online. Tan et al. (2024) conclude in their comprehensive umbrella review that general parenting appears to be at least as important as digital-specific parenting practices in shaping children's cyber-wellness. They note, for instance, that some studies report weak or null relationships between problematic internet use and discrete mediation tactics, while parental control, warmth, authoritative styles exhibit a modest protective correlation, and that warmth combined with monitoring has been linked to reduced cyberbullying involvement (Tan et al., 2024). This suggests that the relational climate established by a parent's general style may condition whether any given mediation practice is effective at all.

This conditioning effect is illustrated directly by research on the autonomy–control axis. Young and Tully (2022), analysing data from 356 U.S. parent–adolescent dyads, found that restricting adolescents' access to digital media as a form of punishment was associated with lower perceptions of autonomy-supportive parenting, whereas monitoring and punitive practices were linked to stronger perceptions of controlling parenting. Their mediation model further demonstrated that perceiving parents as controlling was associated with adolescents anticipating negative consequences from communicating with them. These findings led the authors to argue that parents are better able to protect adolescents from risky

online experiences by encouraging autonomy through active mediation rather than relying on control-oriented approaches (Young & Tully, 2022).

Ren and Zhu (2022), who examined how parental profiles condition the effects of mediation on teenagers' internet use, further define the moderating role of general style. They discovered that while general parenting style did not moderate the effects of restrictive mediation, it did moderate the relationship between active mediation and internet use: increased use of active mediation was associated with lower internet use only in supportive parenting profiles, and was unrelated to use within slightly-involved or rejecting-controlling profiles (Ren & Zhu, 2022). Read alongside the four-component model discussed earlier, this pattern is theoretically coherent: the deficit dimensions of digital parental awareness—digital negligence and negative role modelling—map conceptually onto the low-responsiveness, low-involvement styles in which active mediation appears least effective (Bayar et al., 2025; Ren & Zhu, 2022).

Two qualifications temper these conclusions. First, the evidence base on parenting styles in digital contexts remains limited and is constrained by varied definitions and measurement of styles, which has produced some inconsistent findings and indicates a need for further research (Tan et al., 2024). Second, parenting style is best understood here as a background disposition rather than a direct determinant of practice: it shapes the relational context within which more proximal factors operate. Chief among these proximal factors are parents' confidence in their own digital competence and their perception of online risk. The following section turns to these dispositional variables.

2.4.4 Parental digital self-efficacy and risk perception

Beyond their general style, parents bring to digital childrearing two proximal dispositions that shape how they act: their confidence in their own digital competence and their online risk perception. *Parental digital self-efficacy*, the first of these, refers to a parent's confidence in their own capacity to carry out a particular parenting activity, in this case, supervising their child's digital activities (Fidan & Olur, 2023). It is a task-specific type of self-efficacy that relates to parents' confidence and judgement in performing specific digital-parenting responsibilities. According to Fidan and Olur (2023), this type of self-efficacy is crucial for children's efficient use of digital resources as well as for shielding them from online threats.

Empirically, digital self-efficacy is bound up with parents' digital attitudes, although the observed association is modest. Fidan and Olur (2023) discovered a significant but weak positive correlation ($r = .215$, $p < .05$) between overall digital parenting self-efficacy and digital parenting attitudes in a study of 434 parents of primary school children in Turkey. Attitudes emerged as a significant predictor of self-efficacy, accounting for only roughly 4.6% of its variance. The strength of this relationship should therefore not be overstated; what the finding establishes is that attitudes and self-efficacy are linked components of a parent's digital disposition rather than that one strongly determines the other (Fidan & Olur, 2023).

A recurring theme in this literature is the generational gap in digital competence. Fidan and Olur (2023) note that research continues to demonstrate that children and their parents have significantly distinct digital attitudes and levels of self-efficacy (Katz & Gonzalez, 2015; Robinson et al., 2015), and that children, as so-called digital natives, may indirectly socialise their parents into adopting and using information and communication technologies (Straubhaar, 2012, as cited in Fidan & Olur, 2023; Selwyn, 2004). This asymmetry resonates with Livingstone's (2007b) earlier observation that parents regulate the internet more hesitantly than television precisely because they often lack expertise and perceive their children as more competent than themselves. Lower digital self-efficacy may thus undermine parents' capacity to mediate confidently, even where their protective intentions are strong (Fidan & Olur, 2023).

The second proximal disposition, risk perception, is usefully illuminated by dual-process accounts of how people judge risk. Slovic and Peters (2006) distinguish between "risk as feelings" (fast, intuitive, experiential reactions) and "risk as analysis" (slower, deliberative reasoning) and argue that the former often dominates everyday judgement through the affect heuristic, whereby an overall affective impression guides perceptions of both risk and benefit (p. 322). A characteristic consequence is an inverse relationship between perceived risk and perceived benefit that is driven by affect rather than evidence, a tendency that is amplified under time pressure (Slovic & Peters, 2006). Crucially, while affect can support adaptive judgement, Slovic and Peters (2006) caution that it "can also mislead," producing responses such as dread and probability neglect that are poorly calibrated to actual likelihoods.

Although Slovic and Peters (2006) developed this framework for risk perception in general, it can be applied to the parental context to illuminate how parents appraise their children's

online lives. On this reading, parental perception of online risk may often be affective and undifferentiated rather than the product of calibrated assessment, with a global sense of dread substituting for discrimination among qualitatively distinct risks. This affective mode of appraisal connects directly to the alarm-driven narratives discussed in Section 2.3.1, which may amplify parents' dread-based perceptions of digital technology. It also has consequences for practice: where risk is experienced as diffuse dread, parents may gravitate toward control-oriented, restrictive, or technical responses rather than autonomy-supportive strategies. This is a tendency that, as the preceding sections noted, can prove counter-productive, since withdrawing access as punishment erodes adolescents' perception of supportive parenting and active mediation protects most effectively within a supportive relational climate (Young & Tully, 2022; Ren & Zhu, 2022).

Taken together, self-efficacy and risk perception constitute the proximal dispositional substrate of digital parenting: the former conditions whether parents feel able to act, the latter how urgently and in what direction they feel compelled to act. These dispositions do not determine behaviour on their own, but they shape the selection among the concrete mediation strategies whose theory, predictors, and developmental trajectory form the subject of the following chapter.

2.5 Parental mediation: strategies, predictors, and developmental dynamics

Whereas the preceding chapter approached the parent as a disposition—a configuration of awareness, parenting style, self-efficacy, and risk perception—the present chapter turns to the parent as an agent, examining the concrete practices through which these dispositions are enacted. Within the literature, these parental practices are generally framed as *parental mediation*, a concept describing how parents manage children's interactions with media. Importantly, the construct extends beyond restrictive regulation to include communicative, interpretive, and supervisory forms of parental involvement (Livingstone & Helsper, 2008). Consistent with the four-factor model introduced by Livingstone and Helsper (2008), the present chapter is structured around four mediation strategies: active mediation, restrictive mediation, monitoring, and technical mediation. For clarity in the remainder of the dissertation, active mediation, restrictive mediation, and monitoring are collectively referred to as *parent-enacted mediation strategies*, as they are implemented primarily through direct parental communication, rule-setting, or supervisory action. Technical mediation is treated

separately because its implementation relies on software- or device-based controls. This grouping is used as an analytical shorthand and does not replace the established four-strategy typology. Section 2.5.1 traces the theoretical origins and evolution of the construct; Sections 2.5.2 through 2.5.5 examine each of the four strategies in turn, moving from the most relational (active mediation) to the most technologically delegated (technical mediation); and Section 2.5.6 addresses the developmental trajectory of mediation across childhood and adolescence.

2.5.1 Origins and theoretical evolution of parental mediation

Initially, the concept of parental mediation was introduced in the context of research on children's television use, where it encapsulated how parents manage their children's relationship with media. Although terminology has varied, the notion has been widely understood to extend the parental role beyond mere restriction to include parental monitoring as well as conversational and interpretative techniques (Livingstone & Helsper, 2008). Drawing on earlier scholarship, Nathanson (1999) and Valkenburg et al. (1999) conceptualised parental mediation as a combination of three distinct strategies, later presented in a generalised form by Livingstone and Helsper (2008). *Active mediation* encompasses parent–child discussion of media content during use, including both supportive or instructional and critical forms of communication. *Restrictive mediation* is characterised by parental rules that regulate children's access to media in terms of time, location, or content, without necessarily addressing the interpretation or implications of that content. *Co-using* describes shared media use in which parents are present but refrain from commenting on the media content (Livingstone & Helsper, 2008).

Whether parents transfer these familiar strategies to the internet is not self-evident, since the internet differs from television in ways that complicate mediation: its interactivity, its individualised and often private use, and the difficulty of monitoring multitasking across multiple windows with a casual glance, all against a backdrop of heightened online risk and parental anxiety (Livingstone & Helsper, 2008). Subjecting a set of parental rules and practices to exploratory factor analysis in a national survey, Livingstone and Helsper (2008) identified four distinct factors in parents' internet mediation: *active co-use, interaction restrictions, technical restrictions*, and *monitoring*. The latter two were described as internet-specific forms of parental mediation absent from television mediation: technical restrictions denoting the use of filtering or blocking software, and monitoring denoting the practice of

secretly or overtly checking up on the child's activity after use (Livingstone & Helsper, 2008). Notably, technical restrictions and monitoring emerged as separate factors with distinct eigenvalues, indicating that, although both involve a controlling orientation, they are empirically and conceptually distinguishable (Livingstone & Helsper, 2008). This distinction provides the rationale for treating monitoring and technical mediation as separate strategies in the present work.

Subsequent frameworks elaborated the typology further. The *EU Kids Online* project expanded it into five dimensions—retaining restrictive and active mediation while adding safety mediation (advice on risk management), technical mediation (filters and parental controls), and monitoring (checking devices or online activity)—again treating technical mediation and monitoring as separate dimensions (Livingstone et al., 2015). The later *EU Kids Online 2020* report, by contrast, organised parental mediation under two broad types: *enabling mediation*, encompassing active mediation together with technical monitoring, and *restrictive mediation*; within this scheme, active mediation is regarded as the most desirable type, being associated with higher digital skills (Smahel et al., 2020). The 2020 report thus consolidates the technical and monitoring dimensions into a single "technical monitoring" category placed under enabling mediation. This consolidation represents one possible categorisation rather than a settled consensus: because both the factor-analytic evidence of Livingstone and Helsper (2008) and the five-dimensional model reported by Tan et al. (2024) treat technical and monitoring practices as distinct, and because the empirical part of this dissertation measures four separate strategies, the following sections retain the four-strategy structure, examining active mediation, restrictive mediation, monitoring, and technical mediation in turn.

2.5.2 Active mediation

Among the four strategies, active mediation is the most relational, which involves discussing media content while the child is interacting with it in both positive or instructive and negative or critical forms (Livingstone & Helsper, 2008). In the digital context, it refers to parents' constructive contacts with their children to discuss and explain online information and to guide responsible use, such as by discussing what should and shouldn't be shared online or explaining why some websites are beneficial or detrimental (Ren & Zhu, 2022). Upon adapting the construct to the internet, Livingstone and Helsper (2008) discovered that conversation and shared presence are unified in a single "active co-use" factor. This factor

is characterised by the parent sitting with the child and discussing the online activity. Consequently, the sharing of media appears to be more active for internet use than for television (Livingstone & Helsper, 2008).

Active mediation is frequently characterised as the most desirable strategy, being associated with higher digital skills among children (Smahel et al., 2020). Reviewing the evidence, Tan et al. (2024) report that active mediation and co-use tend to be more effective than purely restrictive approaches in mitigating online risks, with active mediation consistently linked to reduced levels of cyberbullying and other risky behaviours (Chen & Shi, 2019; Collier et al., 2016; Elsaesser et al., 2017). The protective effect is generally attributed to the way active mediation enhances children's digital skills, information literacy, and awareness of online privacy, which are critical to safe digital navigation (Tan et al., 2024). The evidence is nonetheless mixed: some studies find that restrictive mediation is more effective at limiting media use, so that the advantage of active mediation lies primarily in managing risk and content rather than in reducing screen time (Chen & Shi, 2019).

Crucially, the protective potential of active mediation appears to be conditional on the broader parenting context and on the consistency with which it is applied. Examining how general parenting profiles moderate mediation, in a sample of 1,284 Chinese middle-school students, Ren and Zhu (2022) discovered that under a supportive parenting profile, an increased use of active mediation was linked to a reduction in internet and leisure-related use. However, no significant association was observed for the slightly-involved and rejecting-controller profiles. Drawing on Self-Determination Theory (Ryan & Deci, 2000, 2017), Katz et al. (2019) distinguished autonomy-supportive from psychologically controlling mediation and examined their relation to cyberbullying among 180 Israeli early adolescents. Their central finding concerned inconsistency: involvement in cyberbullying was more likely when parents who generally adopt a controlling style became less controlling, or less consistent, when mediating internet use specifically (Katz et al., 2019). Notably, autonomy support in itself was not a significant predictor—being an autonomy-supportive parent neither increased nor decreased cyberbullying or victimisation—leading the authors to conclude that protection requires much more than autonomy alone (Katz et al., 2019).

A further characteristic of active mediation is that its protective effect does not come at the cost of online opportunity. Using data from the *EU Kids Online* survey, Duerager and

Livingstone (2012) found that active mediation of use—including discussing the internet with children, remaining nearby or accompanying them while they are online, encouraging exploration, and participating in online activities together—is associated with lower levels of online risk and, more importantly, reduced experiences of harm. At the same time, children whose parents adopt this strategy tend to engage in a wider range of online activities and display higher levels of digital skills rather than reduced online participation. The protective benefits of active mediation are, however, not uniform across age groups: they are evident among children aged 9–12 but disappear among adolescents aged 13–16 (Duerager & Livingstone, 2012). These findings suggest that active mediation occupies a distinctive position among parental mediation strategies by simultaneously fostering children's online engagement while mitigating its potential harms, in contrast to restrictive approaches, which seek to reduce risk primarily by limiting online opportunities.

2.5.3 Restrictive mediation

The effectiveness of restrictive strategies can be illuminated by the above-mentioned Self-Determination Theory (SDT), which claims that the fulfilment of three innate psychological needs—competence, autonomy, and relatedness—is essential for optimal functioning and well-being (Ryan & Deci, 2000, 2017). Within this framework, autonomy refers not to independence or detachment but to the feeling of volition that can accompany any act: the sense that one endorses one's own behaviour (Ryan & Deci, 2000). Crucially, the satisfaction of these needs facilitates the internalisation of externally introduced norms and regulations (Ryan & Deci, 2000). This has a direct bearing on restrictive mediation: a rule is more likely to be internalised, and thus to shape behaviour beyond the parent's immediate supervision, when it is communicated in a way that supports rather than undermines the child's sense of volition.

Restrictive mediation consists of setting rules that limit the time, location, or content of media use, typically without discussing the meaning or effects of that content (Livingstone & Helsper, 2008; Tan et al., 2024). Its defining feature is a trade-off that reverses the logic of active mediation. Whereas active mediation reduces harm while expanding online engagement, restriction tends to reduce risk at the cost of opportunity: in their survey, Livingstone and Helsper (2008) found that restricting children's online peer-to-peer interactions was associated with reduced risk, yet restriction also constrains the range of online activities through which children develop digital skills and resilience. Restrictive

mediation thus protects by limiting exposure, but the same limitation may curtail the developmental opportunities that online participation affords.

The protective value of restriction is, moreover, strongly conditional. Reviewing the evidence, according to Tan et al. (2024), age is a significant moderator: younger children typically benefit more from restrictive mediation—with corresponding reductions in problematic internet use and cyberbullying perpetration—while its efficacy decreases with age because teenagers frequently resist parental controls and may increase their use in response (Chen & Shi, 2019; Lukavská et al., 2022; Rega et al., 2022). Effectiveness also varies by risk type and platform: restrictions seem to be more successful at lowering overall screen time and addressing contact-related risks than at controlling video games or social media, where kids might reject parental guidance, and at addressing content-related risks (Chen & Shi, 2019; Fam et al., 2023). Cultural context matters as well, since in cultures that value parental authority over child autonomy, restrictions are typically more acceptable and less detrimental to the parent-child bond (Elsaesser et al., 2017).

These contingencies point to a single underlying condition: the quality of communication that accompanies the rules. Examining a nationally diverse sample of United States adolescents, Yue et al. (2026) found that restrictive mediation was associated with adolescents' constructive orientation toward online community guidelines only when it was paired with autonomy-supportive communication; highly restrictive parenting without such communication conferred no comparable benefit. What distinguished effective restriction was the extent to which adolescents found their parents' reasons for the rules convincing—relevant, valid, and attuned to their own perspective—rather than the mere existence or severity of the rules. Consistent with the SDT account of internalisation, rules that are explained in autonomy-supportive ways are more likely to be taken up by the child as their own, so that the effectiveness of restriction depends less on whether rules exist than on how they are communicated (Yue et al., 2026).

Restrictive mediation, then, operates primarily by limiting access and exposure, and its success is contingent on developmental stage, risk type, cultural context, and, above all, the relational manner in which rules are conveyed. It is distinguished from the next strategy, monitoring, in that restriction governs what the child may do in advance, whereas monitoring concerns the parent's supervision and checking of the child's activity, often after the fact.

2.5.4 Monitoring

Whereas restrictive mediation governs children's internet use in advance, monitoring operates after the fact: it denotes parents' supervision and checking of what children have actually done online. In the four-factor model derived by Livingstone and Helsper (2008), monitoring emerged as a distinct dimension capturing parents' practice of checking the records of children's internet activity—for example, the websites visited, the messages exchanged, or the social-media profiles maintained—either with the child's knowledge or covertly. Unlike active and co-using mediation, which rely on conversation and shared engagement, and unlike restriction, which constrains behaviour prospectively, monitoring is a retrospective and often unilateral form of supervision. Synthesising the digital-parenting literature, Tan et al. (2024) similarly characterise monitoring as the checking of devices or online activities after use, locating it among the strategies that became salient specifically with the migration of children's media use to networked, individualised devices. As such, monitoring is one of the two strategies—alongside technical mediation—that Livingstone and Helsper (2008) regard as unique to the internet, having no straightforward analogue in earlier television-era typologies.

A defining feature of online monitoring is the tension it creates between safeguarding children and respecting their developing autonomy and privacy. Beyens, Valkenburg, and Janssen (2025) distinguish two broad forms: parental control, which regulates and restricts media use, and parental surveillance, which involves inspecting and checking what adolescents do online. Surveillance, in their account, "or so-called snooping, is a more covert form of monitoring since adolescents are often not aware of being surveilled" (p. 198), and spans practices such as monitoring text messages, online conversations, and social-media contacts, tracking smartphone use, requesting account passwords, and "friending" adolescents on social media. Although such surveillance offers parents a convenient route to knowledge about their children's digital lives, Beyens et al. (2025) stress that it is also an intrusive form of monitoring that violates adolescents' privacy and can provoke parent–adolescent conflict. The same tension between safeguarding children's welfare and protecting their privacy is identified by Tan et al. (2024) as a central dilemma running through research on monitoring and control technologies (Gnanasekaran & De Moor, 2023; Iftikhar et al., 2021).

Despite its intuitive protective rationale, the empirical case for monitoring is far from settled. Beyens et al. (2025) note that surveillance is nonetheless common—roughly half of US parents of adolescents check their children's text messages—yet that the evidence on its effectiveness remains scarce, mixed, and exclusively correlational. Some studies report a protective association with reduced cyberbullying victimisation, whereas others find that heavier parental surveillance accompanies more cyberbullying, an effect observed among younger but not older adolescents; further work finds no relationship between parental access to passwords or profiles and adolescents' sexting (Beyens et al., 2025). Consistent with the broader literature, monitoring appears most beneficial when embedded in a warm relationship rather than enacted as detached oversight: Tan et al. (2024) report that parental warmth combined with monitoring is associated with reduced cyberbullying involvement (Elsaesser et al., 2017). It remains, in the words of Beyens et al. (2025), "an open question whether parental surveillance may promote healthy digital media use or whether it is mainly perceived as an act of privacy invasion by adolescents" (p. 200). Crucially, the salience of monitoring shifts across development, as direct supervision becomes both less feasible and less acceptable as children grow older. This trajectory will be taken up in Section 2.5.7.

A final conceptual point concerns the boundary between monitoring and the strategy considered next. Monitoring, as described here, remains a fundamentally human and relational act: parents themselves observe, check, and interpret what their children do online, and the consequences play out within the parent–child relationship. When the work of supervision is instead delegated to software—filters, parental-control apps, time-management tools, and automated tracking—the strategy shifts in character, moving from interpersonal oversight to the technical management of access and activity. It is to this delegation of mediation to technology that the next section turns.

2.5.5 Technical mediation

Technical mediation refers to parents' use of technological tools—filtering and blocking software, parental-control applications, time-management settings, and tracking or activity-logging features—to regulate children's internet access and use. In the four-factor model of Livingstone and Helsper (2008), technical restrictions emerged as a discrete dimension grouping items such as having filtering software installed and having monitoring software installed, applied to a range of risky activities. Eastin et al. (2006) describe the use of technical restrictions, alongside monitoring, as a form of parental mediation particularly

relevant and unique to the Internet, since such tools have no straightforward analogue in the television era; in their data, technical restrictions and the social rules of restrictive mediation loaded on clearly separate factors, reflecting genuinely different parental practices rather than a single underlying disposition. In the synthesis offered by Tan et al. (2024), technical mediation is likewise treated as a distinct strategy, defined as the use of filters and parental controls to manage children's digital environments.

What distinguishes the technical mediation conceptually from the strategies discussed so far is that it relocates the work of supervision from the parent to the device. Active mediation, restriction, and monitoring are all enacted through the parent's own ongoing involvement—conversation, rule-setting, and checking; technical mediation, by contrast, delegates a portion of that involvement to software that filters, limits, or determines access more or less automatically. This delegation has an evident appeal in a digital environment that parents often find difficult to supervise directly, and technical tools are widely promoted on precisely this basis. As Stoilova, Bulger, and Livingstone (2023) note, parental control tools are promoted by policymakers as a means of ensuring children's safety online and are frequently marketed to parents as a ready solution to the demands of responsible parenting in a digital world. Technical access and digital literacy shape whether parents adopt such tools: according to Tan et al. (2024), parents in more technologically advanced environments are more inclined to employ parental-control software and establish online-safety settings (Nichols & Selim, 2022; Wahyuningrum et al., 2020).

The evidence on whether this delegation works, however, is qualified at best. In a rapid evidence review of 40 studies, Stoilova et al. (2023) found that the consequences of parental control were mixed: some applications brought benefits, others had no measurable effect, others limited valued outcomes, and some produced adverse effects. On the beneficial side, certain tools were associated with reduced exposure to online risks; on the adverse side, a number of studies found that controls limit children's positive opportunities—they are associated with lower internet usage overall and less privacy-valued online activities—while other studies found detrimental or counterproductive impacts, like heightened family conflict and damaged trust (Stoilova et al., 2023). The authors conclude that parental controls should not be treated by policymakers and technology developers as a reliable way to keep children safe online, because current evidence does not demonstrate their effectiveness and poorly designed tools may create additional difficulties for families. This trade-off mirrors the broader pattern identified for restriction in Section 2.5.3: technical tools can mitigate

exposure to risk, but at the potential cost of the opportunities, autonomy, and relational trust on which children's longer-term digital resilience depends.

These findings caution against treating technical mediation as a self-sufficient solution. Stoilova et al. (2023) found little support for parental controls as a stand-alone strategy, reporting instead that parents valued them most when embedded within a broader repertoire of mediation practices and a positive parent–child relationship. Consistent with this, Tan et al. (2024) note that parental control techniques can help children in developing internet security habits like protecting personal data. Technical mediation, in other words, is best understood not as an alternative to the parent-enacted strategies examined earlier but as one component of a broader mediation repertoire. The following section turns to the developmental dimension of this repertoire and examines how parental mediation changes as children grow older.

2.5.6 Developmental trajectory: age-related decline

The strategies reviewed in the preceding subsections are not applied uniformly across childhood; their intensity and form shift as children mature, and several lines of evidence converge on a general attenuation of parental mediation across the transition into adolescence. This developmental dimension is theoretically important because it implies that parental monitoring and control tend to decrease during early-to-middle adolescence, a developmental period when adolescents' exposure to online risks and the importance of peer relationships typically increase (Beyens, Valkenburg, & Janssen, 2025).

The most direct synthesis of this pattern comes from the longitudinal and cross-sectional literature on adolescent mediation. Dedkova and Mýlek (2023) highlight that as children grow, particularly during adolescence, the parental mediation strategies regarding internet use—both active and restrictive—tend to decline, a pattern supported by both cross-sectional and longitudinal research. In their structural equation analysis of 1,031 Czech adolescents aged 11–17, they found that increasing adolescent age is associated with decreased levels of both active and restrictive parental mediation of online interactions, as well as a reduction in adolescents' risk perception of these interactions (Dedkova & Mýlek, 2023). Crucially, they frame this decline not as parental neglect but as a developmentally appropriate adjustment: the decrease is likely due to adolescents' heightened capacity for self-regulation and their increasing desire for autonomy, which parents recognise and accept as appropriate (Dedkova & Mýlek, 2023).

The umbrella review evidence, however, complicates any simple story of monotonic decline. Tan et al. (2024) report that the association between child age and digital parenting is mixed across studies and varies by strategy: while Wahyuningrum et al. (2020) found that parents mediate more with younger children (aged 5 to 8), and Wang et al. (2023) found a negative association between the child's age and restrictive mediation, this decrease with age was observed specifically for restrictive mediation, while active mediation did not show a similar decline, suggesting that parents may adjust their mediation approaches with increasing child age rather than uniformly reducing their monitoring (Tan et al., 2024). The pattern, in other words, is at least partly one of substitution rather than wholesale retreat: direct, restrictive control gives way to less intrusive, more dialogic forms of guidance as children mature. This qualification matters because the strategies most amenable to younger children—direct supervision and technical restriction—become progressively less feasible and less socially acceptable as adolescents assert autonomy (Beyens et al., 2025), even as conversational and relationship-based approaches may persist or remain available.

For the present study, this developmental dynamic carries a clear analytic implication. Because mediation intensity covaries with child age, age functions as a key contextual variable that any cross-sectional assessment of parental strategies must take into account, both as a predictor of which strategies parents adopt and as a moderator of how those strategies relate to children's outcomes. More substantively, the literature suggests a genuine tension between protection and autonomy-support: the attenuation of mediation may be developmentally appropriate where it tracks the adolescent's growing self-regulation, yet potentially premature where parental withdrawal outpaces the child's actual readiness to manage online risks independently (Dedkova & Mýlek, 2023; Beyens et al., 2025). Adjudicating between these possibilities—and identifying the conditions under which declining mediation is supportive rather than exposing—remains an open empirical question and one to which the dissertation's developmental framing returns. Addressing such questions adequately would require the kind of large-scale, longitudinal designs that follow children across developmental stages, which the field has explicitly called for but which remain rare (Coyne et al., 2017).

2.6 Central and Eastern Europe and Hungary in the digital parenting literature

2.6.1 The global geography of digital parenting research

Although the parental mediation literature has expanded considerably, its empirical base remains geographically concentrated in a small number of predominantly Western, high-income settings. A recent systematic review of parental mediation and social media use illustrates this pattern: across the thirty-two studies it synthesised, samples were drawn from only twelve countries, with studies conducted in the United States clearly predominating, followed by China and Spain, while most of the remaining countries contributed a single study each (Sevilla-Fernández et al., 2025). Notably, no Central or Eastern European country featured in this corpus apart from Russia, leaving the region effectively absent from the synthesised evidence base on mediation of children's social media use. This concentration is consistent with observations from within the field itself, including the explicit acknowledgement that the dominant theories and empirical findings on parental mediation derive primarily from Western—and especially United States—contexts (Kutrovátz, 2021).

The unevenness is not confined to the global distribution of studies; it is also visible within Europe. The first pan-European synthesis produced by the *EU Kids Online* network reported that research on children's internet use was distributed unevenly across the continent, with the largest volumes concentrated in a few Western and Northern European countries and the least research available in several smaller and Central or Eastern European states, including Bulgaria, Poland and Slovenia (Livingstone & Haddon, 2009). The same report observed that the relationship between children's and parents' online presence differed across countries, with children outnumbering their parents online only in a small set of states, several of them post-socialist (Livingstone & Haddon, 2009). Taken together, these patterns indicate that the comparative knowledge base on which mediation theory rests has been shaped disproportionately by a limited range of national contexts, with Central and Eastern Europe systematically underrepresented.

This geographical concentration has conceptual, and not merely descriptive, implications. Because the prevailing models of parental mediation have been developed and validated largely within Western settings, their transferability to other socio-cultural contexts cannot be assumed a priori; the institutional, economic and cultural conditions under which parents mediate children's technology use may differ in ways that affect both the prevalence and the

meaning of particular strategies (Kutrovátz, 2021). The Central and Eastern European context is therefore best understood not as a peripheral gap to be filled with more of the same studies, but as a setting whose specific contextual features warrant explicit theoretical attention. This argument is developed in the following subsection.

2.6.2 Contextual factors shaping parental mediation in Central and Eastern Europe

If the prevailing models of parental mediation have been developed largely in Western settings, then understanding their applicability to Central and Eastern Europe requires attention to the region's distinctive institutional and cultural conditions. A useful starting point is the argument that parental mediation is not a purely individual choice but is embedded in—and patterned by—macro-level social factors. Drawing on cross-national survey data from twenty-seven European states, Kalmus and Roosalu (2011) showed that national differences in mediation cannot be reduced to internet diffusion or socio-demographic composition alone, but are shaped by the way welfare and gender arrangements allocate parents' time, knowledge and socialising responsibilities between the public and private spheres. On this account, the cultural orientation of child-rearing matters as well: more individualistic child-rearing cultures, characteristic of the Protestant Nordic countries, were associated with higher levels of all mediation types, whereas more collectivistic cultures—including post-communist Europe—tended either towards low overall mediation or towards a preference for restrictive rules and technical solutions (Kalmus & Roosalu, 2011).

For the post-socialist countries specifically, Kalmus and Roosalu (2011) advanced a labour-market explanation: the combination of historically high female labour-force participation with very limited opportunities for part-time work leaves parents with comparatively little time and energy for the time-intensive forms of active mediation, so that passive, restrictive or technical approaches predominate. Consistent with this interpretation, the cluster of countries with the highest share of largely passive mediation consisted exclusively of post-socialist states, while several Central European countries with a Catholic and socialist legacy clustered towards technically oriented and restrictive profiles, which the authors linked to a concern with protecting perceived traditional values (Kalmus & Roosalu, 2011). These patterns are presented here at the regional level to characterise the contextual conditions of mediation, rather than as definitive country rankings; the broader point is that the resource constraints and value orientations associated with the post-socialist trajectory plausibly shape which mediation strategies are feasible and culturally favoured.

The Hungarian case can be located within this regional frame. Hungary shares the post-socialist legacy described above, and the post-transition period was marked by re-familisation policies—including generous parental leave and childcare provisions—that reinforced an intensive, mother-centred model of childrearing (Kutrovátz, 2021). At the same time, structural inequalities condition parents' capacity to mediate: internet access, while widespread, remained unevenly distributed across the country, with regional and educational divides more pronounced than generational ones, such that access in some areas lagged well behind the more connected central region (Kutrovátz, 2021). Because both the resources required for active mediation and the digital skills underpinning risk awareness are socially stratified, these inequalities function as moderators of parental mediation rather than as background conditions, an issue that becomes directly relevant when interpreting the Hungarian evidence considered next.

2.6.3 Empirical evidence from Hungary

Beyond the contextual factors outlined above, a modest but instructive body of comparative evidence allows the Central and Eastern European region to be characterised in broad terms. The most systematic regional mapping derives from the *EU Kids Online* network, which classified twenty-five European countries into clusters according to children's online opportunities, risks and the parental mediation practised in each (Helsper et al., 2013). In this classification, most Central and Eastern European countries fell outside the Nordic "supported" pattern of digitally skilled, actively engaged parents: a cluster comprising Bulgaria, Cyprus, the Czech Republic, Estonia, Poland, and Romania was characterised by diverse but comparatively less effective mediation, while a further group including Hungary, Lithuania, and Slovenia was distinguished by lower parental involvement in children's internet use (Helsper et al., 2013). Consistent with this, syntheses of the *EU Kids Online* findings have observed that Eastern European parents are disproportionately likely to be either "all-rounders," who practise all mediation types, or "passive," scoring below the European average on every type, in contrast to the predominantly active mediation favoured in the Nordic countries (Helsper et al., 2013). These regional patterns should be read with caution, since the same research stresses that within-country differences tend to exceed those between countries; they nonetheless indicate that the region cannot simply be assimilated to the Western models on which mediation theory has largely been built.

Within this regional frame, Hungary is among the better-documented cases, although the evidence remains limited. Nationally representative analyses have identified a small number of recurring mediation profiles among Hungarian parents. Drawing on representative data for children aged seven to sixteen, Ságvári (2019, as cited in Kutrovátz, 2021) distinguished five clusters—passive parents constituting the largest group, followed by restrictors, active mediators, and smaller technical and "all-rounder" groups—and found that the number of strategies declined as children grew older, while higher parental education and greater digital skills were associated with more mediation. A representative survey of families with children aged twelve to sixteen similarly identified four strategies—balancing mediation, permissiveness, restriction and an ad hoc approach—with balancing and permissive styles predominating, and reported that parents employed all strategies less intensively as children aged and that more highly educated parents were less likely to be merely permissive (Nagy et al., 2023). The empirical base now extends to early childhood as well: a nationally representative study of children around eighteen months old documented widespread media use, with television most common and daily screen time associated with maternal socio-economic status (Kopcsó et al., 2024). Taken together, these studies suggest that Hungarian patterns broadly echo the regional picture, combining substantial passivity with socially stratified mediation.

Notwithstanding these contributions, the Hungarian evidence base remains thin and uneven. Research on adolescents' technology use has been dominated by psychology and has concentrated on problematic online behaviour, leaving the sociological understanding of everyday parental mediation comparatively underdeveloped; the patterns of technology use and mediation in Hungary are, on this assessment, still markedly under-researched (Kutrovátz, 2021). Recent scholarly activity nonetheless signals growing attention to the field, as reflected in the publication of a dedicated Hungarian-language volume on digital parenting (Koltay & Lendvai, 2025). It is partly in response to these gaps that the present dissertation turns to a more detailed empirical analysis of parental mediation in Hungary, drawing on recent nationally representative survey data; that analysis is developed in the empirical chapters. The descriptive evidence reviewed here thus motivates, but does not itself constitute, the formulation of the study's specific research gaps. The synthesis that follows draws together the threads of this chapter before the study's research gaps and questions are set out.

2.7 Synthesis of the literature

The preceding sections have moved from the changing conditions of childhood to the changing role of the parent within them. Section 2.1 documented how children's media use has shifted from shared, stationary, and observable settings toward dispersed, mobile, and increasingly private engagement, with social media entering children's lives at progressively earlier ages. Against this backdrop, Sections 2.2 and 2.3 reframed the question of what is at stake online: the analytical distinction between risk and harm (Livingstone et al., 2011), and a criteria-based, function-oriented account of problematic use, together displace any simple equation of exposure with damage and direct attention instead to the conditions under which online experiences become harmful. It is precisely because harm is contingent rather than automatic—mediated by the child's resources and immediate social environment—that the parental role becomes pivotal rather than peripheral (Smahel et al., 2020). The first half of the chapter thus establishes digital childhood not as a fixed setting but as a moving target, one whose central feature is that the locus of children's online lives is migrating away from the very spaces in which parents have traditionally been able to see, accompany, and intervene.

The second half of the chapter turned to the parent as the central mediating figure, examined first as disposition and then as action. Section 2.4 treated the dispositional substrate of mediation—awareness, parenting style, digital self-efficacy, risk perception, and the affective tenor of parental concern—as the underlying orientation from which mediation behaviour springs. Section 2.5 then organised mediation behaviour itself around four strategies—active mediation, restriction, monitoring, and technical mediation—which differ in the form and degree of parental involvement they entail: dialogic and interpretive engagement, rule-setting, supervisory checking, and technologically mediated control, respectively. Two conclusions recur across this literature. First, no single strategy appears uniformly protective across contexts; its associations with children's outcomes vary by developmental stage, risk type, and the relational climate and quality of communication in which it is embedded. Second, parental mediation practices are embedded in broader parental dispositions and relational contexts, yet the links between these levels remain insufficiently integrated and inconsistently measured in the existing literature. Observable strategy inventories therefore do not necessarily capture the broader knowledge, confidence, concerns, and relational processes that may shape how parents engage with their children's digital lives.

Section 2.6 then situated this body of theory in its geographical context. The evidence base on which mediation theory rests is concentrated in a narrow range of predominantly Western, high-income settings, leaving Central and Eastern Europe systematically underrepresented (Sevilla-Fernández et al., 2025; Livingstone & Haddon, 2009). This is not merely a descriptive gap: because the prevailing models were developed and validated under Western institutional, economic, and cultural conditions, their transferability cannot be assumed, and the region's post-socialist resource constraints and value orientations plausibly shape which strategies are feasible and culturally favoured (Kalmus & Roosalu, 2011). Within this frame, Hungary emerges as one of the better-documented yet still thinly covered cases: its evidence base is fragmented, weighted toward problematic use, and offers limited multi-wave, population-level evidence on how the prevalence of parental mediation strategies changes over time alongside age-related differences in children's digital participation.

Read as a whole, the chapter brings several tensions into view that the existing literature raises but does not resolve. Three recurring limitations stand out. First, the dispositional and behavioural levels of mediation—what shapes parents' orientation toward the digital world, and what parents actually do—have largely been studied apart, so that the link between underlying awareness and enacted strategy remains loosely specified. Second, the field has tended to document its central trends in isolation from one another: the changing conditions of digital childhood, age-related differences in the prevalence of parental mediation, and the relative standing of different mediation strategies are each well established, yet rarely brought into a single analytical frame in which their co-occurrence and interrelationship become visible. Much of the evidence, moreover, is cross-sectional and single-country, which makes it difficult to compare how these patterns change over time or combine within comparable populations. Third, this knowledge has been built disproportionately on Western, high-income settings, leaving open the prior question of whether its central claims hold in a Central and Eastern European context whose institutional and cultural conditions differ in theoretically consequential ways. These are not gaps in the sense of wholly unstudied topics; they are gaps of integration, temporal and population-level comparison, and contextual scope. Before these gaps are translated into the research questions developed in Chapter 3, the following section draws together the principal constructs and theoretically expected relationships identified in the literature into an explicit conceptual framework.

2.8 Literature-informed conceptual framework

Drawing together the theoretical and empirical literature reviewed in the preceding sections, Figure 1 presents a literature-informed conceptual framework for understanding the relationships among children's digital lives, parental dispositions, and parental mediation practices. The framework is intended as a heuristic synthesis of the principal constructs and theoretically expected relationships identified in the literature rather than as a causal model. It situates both children's digital engagement and parental mediation within broader developmental and contextual conditions, including the child's age and developmental stage, the changing digital and platform ecology, family and socioeconomic circumstances, and the wider socio-cultural and national context. These conditions may shape both how children participate in digital environments and how parents perceive, interpret, and respond to that participation.

At the parental level, the framework distinguishes between dispositional foundations and parental mediation practices. The dispositional level encompasses digital parental awareness, digital self-efficacy, parental risk perception and concern, and broader parenting orientations. Together, these constructs represent the knowledge, confidence, perceptions, attitudes, and general orientations that may inform how parents approach their children's digital lives. Digital parental awareness (DPA) is included as a theoretically relevant construct because it directs attention beyond discrete mediation behaviours towards the knowledge, awareness, skills, and attitudes that may underlie them. However, DPA is not directly operationalised as a composite construct in the empirical analyses of the present dissertation.

These dispositional foundations may be reflected in different forms of parental mediation practice. Consistent with the literature reviewed in Section 2.5, the framework distinguishes active mediation, restriction, monitoring, and technical mediation. These strategies differ in the form of parental involvement they entail, ranging from discussion, explanation, and guidance to rule-setting, supervision, and technologically mediated control. Their significance, however, cannot be fully separated from the broader relational and communicative context in which they are enacted. The framework therefore represents the relational and communicative context as a cross-cutting dimension rather than as an additional mediation strategy: openness, trust, dialogue, and the quality of parent–child

communication may accompany different forms of mediation and shape how parental involvement is experienced and responded to by the child.

On the child side, the framework distinguishes two broad but interconnected domains. The first, children's digital participation and use, encompasses children's access to and ownership of digital devices, internet and platform use, the intensity and duration of digital engagement, and entry into and participation in social-media environments. These dimensions reflect the changing material and social conditions of digital childhood described in Section 2.1, in which children's digital engagement has become increasingly personalised, mobile, and embedded in everyday life.

The second domain, children's digital experiences, risks, and responses, encompasses digital attitudes and self-perceptions, problematic patterns of internet use, and children's encounters with online risks and adverse experiences. Within this domain, the framework retains the distinction between risk and harm developed in Section 2.2: exposure to an online risk may, but does not necessarily, result in harm, and an adverse experience therefore represents only one possible consequence of risk exposure. Where harm or distress does occur, children may respond through different forms of coping, including technical, individual, and interpersonal responses, as well as disclosure and help-seeking. Coping and disclosure are thus treated as analytically distinct from risk prevention itself.

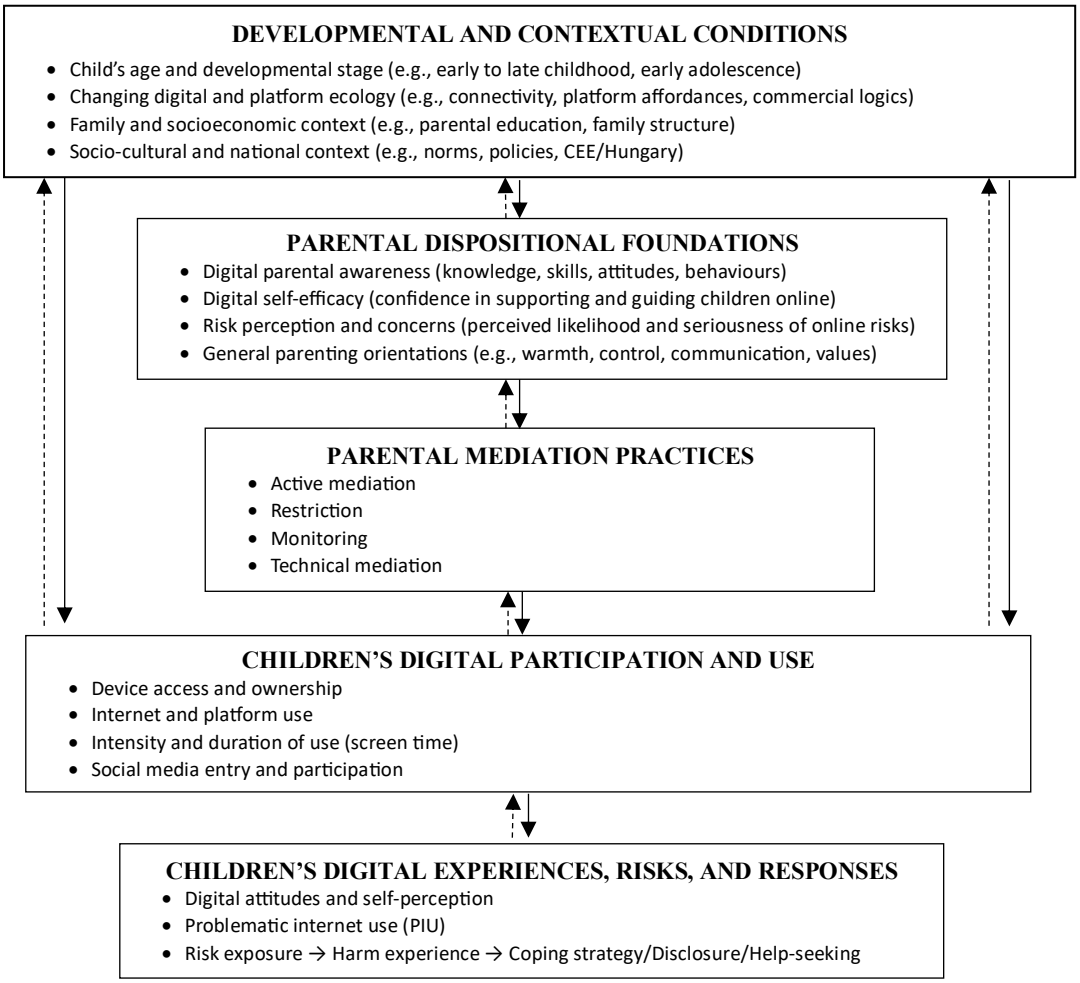
Parental mediation may be relevant at several points across these child-related domains. The reviewed literature suggests possible relationships not only with children's access, participation, and exposure to online risks, but also with the relational and communicative conditions under which children interpret adverse experiences and decide whether to disclose them or seek support. These relationships should not be understood as necessarily unidirectional. Children's digital practices and experiences may themselves prompt changes in parental concern, rule-setting, monitoring, or other forms of mediation. The framework therefore allows for potentially reciprocal relationships between parental mediation and children's digital participation and experiences.

Figure 1 thus provides a conceptual bridge between the literature reviewed in this chapter and the empirical investigation developed in the subsequent chapters. It does not imply that every pathway represented in the framework is directly tested in the present dissertation. Rather, it identifies the broader conceptual domains and theoretically expected relationships from which the research gaps and research questions are subsequently derived. The next

chapter translates selected dimensions and relationships identified in this framework into empirically answerable research questions, while their specific operationalisation and analytical treatment are detailed in Chapter 4.

Figure 1

Literature-informed conceptual framework



Source: Author's conceptualisation based on the literature reviewed in Chapter 2.

Note. Arrows represent theoretically expected relationships and organising links derived from the reviewed literature and do not imply causal effects in the empirical analyses of the present dissertation. Dashed arrows indicate potentially reciprocal relationships or feedback processes. The risk–harm–coping sequence represents a conceptual pathway rather than a deterministic progression: exposure to online risk does not necessarily result in harm. Digital parental awareness (DPA) is included as a theoretically relevant construct informing the dispositional level of the framework but is not directly operationalised as a composite construct in the empirical analyses.

3. RESEARCH GAPS AND RESEARCH QUESTIONS

The preceding review identifies several gaps in the literature on digital parenting and parental mediation that, taken together, motivate the present study. First, Central and Eastern Europe (CEE) remains substantially underrepresented in the digital parenting literature. Systematic reviews of the field draw overwhelmingly on samples from the Global North, with no CEE country represented in the most recent synthesis of parental mediation and social-network use (Sevilla-Fernández et al., 2025), echoing the long-standing observation that research is unevenly distributed across Europe and thinnest in its central and eastern parts (Livingstone & Haddon, 2009; Helsper et al., 2013). Available CEE evidence remains fragmented, weighted toward psychology and problematic use, and is rarely framed as population-level mediation research (Kutrovátz, 2021). For Hungary specifically, representative survey evidence is available—on early-childhood media use (Kopcsó et al., 2024), on adolescents' digital experiences (Nagy et al., 2023), and on mediation typologies (Ságvári, 2019, as cited in Kutrovátz, 2021)—yet these studies remain dispersed across age groups and disciplinary traditions, while the academic literature reviewed here provides little multi-wave, population-level evidence on changes in parental mediation strategies over time. One of the few in-depth Hungary-specific accounts of everyday mediation is qualitative, based on an interview sample of 29 parents (Kutrovátz, 2021, 2022). The CEE context, moreover, presents distinctive contextual factors—post-socialist legacies in education and family policy, uneven digital infrastructure, and culturally specific configurations of parental time and authority—that established Western-centric frameworks may not adequately capture (Kalmus & Roosalu, 2011).

Second, much of the existing evidence base relies on small or non-representative samples, cross-sectional designs, and geographically concentrated, predominantly Western contexts, constraining the extent to which findings can be generalised across populations and settings. Two interdisciplinary systematic reviews of how digital parenting has been measured—across quantitative survey research (n = 145 studies) and qualitative work including focus groups, interviews, co-design, and user studies (n = 49)—conclude that the field's evidence base has limited generalisability across cultural contexts and populations and call for more comprehensive and inclusive approaches (Modecki et al., 2022). A recent three-level meta-

analysis synthesising 88 primary studies published between 2008 and 2024 likewise describes a fragmented evidence base, with considerable variability in how parenting strategies are operationalised, and highlights the continuing need for longitudinal and representative research (Tan et al., 2025). Calls for large-scale longitudinal designs capable of following children across developmental stages have also been made explicitly within the field (Coyne et al., 2017).

Third, the dispositional and attitudinal foundations of parental mediation remain insufficiently integrated with research on enacted mediation practices. Research on children's online activities, digital media literacy, parental orientations, and parental mediation has often developed along partly separate analytical tracks (Adigwe, 2021; Nikken, 2017). As a result, dispositional constructs that may inform how parents approach their children's digital lives—including digital parental awareness, digital self-efficacy, perceptions of online risk, and perceived competence relative to the child—are not consistently examined alongside the mediation practices parents report using (Livingstone & Helsper, 2008; Helsper et al., 2025). A clearer integration of these dispositional and behavioural levels is important for understanding why parents may respond differently to similar digital challenges and for informing more appropriately targeted forms of parental support (Zgambo et al., 2025).

Fourth, there remains limited multi-wave, population-level evidence on how the prevalence of different parental mediation strategies changes across survey waves. Existing studies frequently examine individual strategies at a single point in time or rely on operationalisations that are difficult to compare across studies. The literature reviewed here provides relatively little nationally representative evidence comparing the population-level prevalence of restriction, monitoring, active mediation, and technical mediation within the same repeated cross-sectional survey design across multiple waves.

Fifth, the relationship between age-related differences in parental mediation and the timing of children's device acquisition and platform entry has received limited attention within a single analytical framework. The literature documents separately both increasingly early digital entry and the lower prevalence of several mediation strategies among parents of older children, but the literature reviewed here provides limited evidence on the co-occurrence of these patterns within the same nationally representative dataset. Examining their co-

occurrence is particularly relevant to understanding the conditions of parental support around early adolescence.

The present dissertation addresses several dimensions of these gaps through a secondary analysis centred on the third wave (2024/25) of the *Digital Parenting Research*, a nationally representative study of 7–16-year-old children and their parents in Hungary (N = 2,000 parent–child dyads). The 2024/25 wave constitutes the primary empirical basis of the dissertation, while comparable data from the two earlier waves (2017 and 2020) are incorporated where replicated or directly comparable indicators allow population-level comparisons across survey waves. Given the descriptive and exploratory aims of the study, formal hypotheses are not advanced; instead, the study addresses the following five research questions:

RQ1. What characterises Hungarian 7–16-year-olds' digital media lives in terms of device access, internet use, content consumption, screen time, and social media participation; how do these patterns vary by age, and how have they changed across the 2017, 2020, and 2024/25 survey waves?

RQ2. What characterises Hungarian 7–16-year-olds' digital attitudes and self-perceptions, indicators of problematic internet use, adverse online experiences, and coping responses to such experiences; how do these patterns vary by age and, where directly comparable measures are available, how have these changed between the 2020 and 2024/25 survey waves?

RQ3. What characterises Hungarian parents' digital attitudes and self-efficacy, online risk perceptions, and concern profiles regarding their children's digital media use; and, where directly comparable indicators are available, how have these changed across the 2017, 2020, and 2024/25 survey waves?

RQ4. What characterises the parental mediation strategies that Hungarian parents of 7–16-year-olds employ, and how has the prevalence of these strategies changed between the 2020 and 2024/25 survey waves?

RQ5. What associations are observed between the parental mediation strategies employed by Hungarian parents of 7–16-year-olds and their children's digital outcomes, and which strategies show the most consistent patterns of association across the examined domains? Specifically, the following child-related outcomes are examined: children's age at first

personal device ownership, age at first social media registration, leisure screen time, indicators of problematic internet use, adverse online experiences, use of anonymous chat platforms, responses to strangers' online friend requests, and disclosure to parents following negative online experiences.

The present dissertation makes several contributions to the existing literature. First, it provides a secondary analysis centred on the 2024/25 wave of a nationally representative repeated cross-sectional research series on children's digital media lives and parental mediation practices in Hungary, complemented by population-level comparisons with the 2017 and 2020 waves where directly comparable indicators are available. In doing so, it contributes evidence from a Central and Eastern European context that remains comparatively underrepresented in the international digital parenting literature. Second, the matched parent–child design of the 2024/25 wave includes children as young as seven—some of whom are not yet fully literate—and enables direct comparison of parent- and child-reported measures within the same household, representing an uncommon methodological strength in survey-based research on digital childhood. Third, the dissertation extends the previously published descriptive reporting of the *Digital Parenting Research* series through dissertation-specific secondary analyses of cross-variable associations, including associations between specific parental mediation strategies and children's screen time, indicators of problematic internet use, adverse online experiences, anonymous-platform use, timing of digital entry, responses to strangers' online friend requests, and disclosure to parents following negative online experiences. Finally, the repeated cross-sectional multi-wave design enables population-level comparison of the prevalence of all four parental mediation strategies between the 2020 and 2024/25 survey waves during a period of rapid technological change.

Table 1 synthesises how the research questions emerge from the literature-informed conceptual framework developed in Chapter 2 (presented in Figure 1) and the research gaps identified in the present chapter. The relationships are not one-to-one: some gaps are cross-cutting and inform the contextual or methodological scope of the study as a whole, whereas others connect particular conceptual domains to two or more research questions. Chapter 4 translates these research questions into their corresponding operationalisations, data sources, and analytical procedures.

Table 1

Mapping the literature-informed conceptual domains and identified research gaps onto the research questions

CONCEPTUAL DOMAIN	RESEARCH GAP	RESEARCH QUESTION
CD1, CD2, CD3, CD4, CD5	G1. Underrepresentation of CEE and Hungary in the international digital parenting literature	RQ1, RQ2, RQ3, RQ4, RQ5
CD1, CD2, CD3, CD4, CD5	G2. Limited generalisability and continued need for more representative, longitudinal, and geographically diverse research	RQ1, RQ2, RQ3, RQ4, RQ5
CD2, CD3	G3. Insufficient integration of parental dispositional foundations with research on enacted mediation practices	RQ3, RQ4
CD3	G4. Limited multi-wave, population-level evidence on changes in the prevalence of parental mediation strategies	RQ4
CD1, CD3, CD4	G5. Limited evidence on the co-occurrence of age-related differences in parental mediation and the timing of children's digital entry within the same analytical framework	RQ1, RQ4, RQ5

Note. CD1 = Developmental and contextual conditions; CD2 = Parental dispositional foundations; CD3 = Parental mediation practices; CD4 = Children's digital participation and use; CD5 = Children's digital experiences, risks, and responses. G1 and G2 are cross-cutting gaps that inform the contextual and methodological scope of the study as a whole. The mappings are not one-to-one: individual conceptual domains may inform multiple research gaps, and individual research gaps may be addressed by more than one research question. The dissertation responds to the representative and geographically diverse dimensions of G2 and provides repeated cross-sectional population-level comparisons where comparable measures are available; it does not provide longitudinal within-person evidence.

4. METHODOLOGY

This chapter describes the methodological design and analytical procedures employed to address the research questions developed in Chapter 3. It first presents the research design and the researcher's role and positionality, with particular attention to the dissertation's secondary-analytical character and the matched parent–child structure of the underlying research series. It then describes the participants and sampling procedure, the measures included in the child and parent questionnaires, and the data-collection procedure. The chapter subsequently details the analytical strategy used for the descriptive, comparative, and exploratory cross-variable analyses, including the distinction between previously published descriptive findings and dissertation-specific secondary analyses. Finally, the ethical considerations relevant to the research and the secondary use of the data are discussed.

4.1 Research design

The present dissertation is based on a secondary analysis of data from the *Digital Parenting Research* series commissioned by the National Media and Infocommunications Authority of Hungary (NMHH). The research series was initiated in 2017 to examine the media use of Hungarian children aged 7–16 and their parents' related attitudes and digital parenting practices across repeated cross-sectional survey waves. The first data collection took place in autumn 2017 under the title *Media use, media consumption, and media literacy research with children and their parents* (Nemzeti Média- és Hírközlési Hatóság, 2018), the second in autumn 2020 as *Digital Parenting Research with children aged 7–16 and their parents* (Nemzeti Média- és Hírközlési Hatóság, 2021), and the third in late 2024 and early 2025 as *Digital Parenting Research with children aged 7–16 and their parents – Part 3* (Nemzeti Média- és Hírközlési Hatóság, 2025). The 2024/25 wave constitutes the primary empirical basis of the present dissertation. Data from the 2017 and 2020 waves are incorporated where replicated or directly comparable indicators permit population-level comparisons across survey waves. The design is therefore repeated cross-sectional rather than longitudinal: each wave comprises a separate nationally representative sample, and observed differences across waves describe population-level patterns rather than within-person change. To the best of my knowledge, the *Digital Parenting Research* series is the only large-scale, nationally

representative study in Hungary that repeatedly examines children's digital media use and parental mediation using data collected from children and parents in the same households.

The dissertation is descriptive and exploratory in orientation. RQ1–RQ4 primarily characterise children's digital media lives and online experiences, parents' digital attitudes and concerns, and parental mediation practices, while also examining age-related patterns and, where comparable measures are available, population-level differences across survey waves. RQ5 extends this descriptive foundation through exploratory cross-variable analyses of associations between parental mediation practices and selected child-related outcomes. The analytical procedures used for these questions, including the predominantly bivariate and unadjusted character of the RQ5 analyses and the specific exceptions to this general approach, are detailed in Section 4.5.

All three waves relied on large-scale empirical data collection. The methodological design developed before the first wave was informed by earlier international empirical research conducted within the EU Kids Online research network and by Ofcom (Office of Communications), the United Kingdom's communications regulator. Its development involved the author of this dissertation, her then superior at the NMHH, and the leading researcher at Psyma Hungary Ltd., the research company responsible for implementing the fieldwork. Across the three waves, Psyma Hungary Ltd. applied highly similar methodological parameters, including the same target population, sampling frame, nominal sample size, and a set of replicated questionnaire blocks designed to support comparability across survey waves. Since 2020, data collection has been conducted using computer-assisted personal interviewing (CAPI). Within each participating household, one child aged 7–16 and one parent or legal guardian were interviewed. The participating adult was the person considered most informed about the child's media use and, in the overwhelming majority of cases, was the child's mother. The parental interview was conducted first, followed by the child interview during the same household session, with written parental consent and in accordance with the applicable data-protection requirements.

A central methodological rationale for the present secondary analysis lies in the matched parent–child design of the *Digital Parenting Research*. Parent and child questionnaires were administered within the same households, allowing responses from children to be linked to those of their own parents rather than comparing findings derived from separate national samples of children and adults. This design enables within-family comparisons of parent and

child reports, as well as analyses of associations between parental mediation practices and children's digital experiences and behaviours. In this respect, the linked dyadic structure represents one of the research programme's particularly valuable methodological features: rather than producing only parallel but disconnected descriptions of children's digital lives and parents' attitudes and mediation practices, it enables selected dimensions of the two sets of responses to be examined in relation to one another within the same families.

Although the primary NMHH research reports documented a wide range of descriptive findings, the analytical potential of the matched parent–child structure had not previously been systematically exploited through cross-variable secondary analyses. The present dissertation therefore builds on this published descriptive evidence but is analytically distinct from it. It is organised around dissertation-specific research questions, recontextualises selected descriptive findings within the scholarly literature, and extends the original reporting through dissertation-specific secondary analyses, including cross-variable and inferential analyses that were not part of the primary descriptive reporting. A more detailed distinction between previously published descriptive results and the dissertation-specific analytical contribution is provided in Section 4.5 and in Appendix 2.

4.1.1 Researcher role and positionality

As a media literacy expert at the National Media and Infocommunications Authority (NMHH), I have served as the professional coordinator of the *Digital Parenting Research* series since its inception. My involvement has extended across the major stages of the research process: from designing the research plan and developing the professional content provided to the research company responsible for data collection, through elaborating the study's methodology and the conceptual foundations of the questionnaire, to interpreting the findings and communicating and disseminating the results. This involvement was already integral to the analysis of the series' primary findings and to the preparation of its research reports (for documentary confirmation of this role, see Appendix 7).

My decision to develop the dissertation around the *Digital Parenting Research* was also informed by my long-standing professional involvement with the research series and by a recognition that some of its most valuable methodological features had remained analytically underused. In particular, I regarded the matched parent–child design as offering substantial potential beyond the descriptive purposes for which the primary reports had mainly been produced. Because the responses of parents and children originate from the same

households, the dataset makes it possible to examine within-family correspondences, discrepancies, and associations that cannot be identified by comparing separate samples of parents and children. One of my motivations for undertaking the present secondary analysis was therefore to realise more fully this analytical potential and, in doing so, to strengthen the evidential contribution of this established nationally representative research on digital parenting in Hungary, while also generating methodological insights that may inform the refinement of its research design, measurement strategy, and future waves of data collection.

This dual role—as a professional involved in the development and coordination of the research series and as the researcher conducting its doctoral secondary analysis—constitutes both a methodological resource and a potential source of bias. My long-standing involvement provides detailed knowledge of the origins of the questionnaire, the rationale behind particular measures, changes made across survey waves, and the wider institutional and policy context in which the research was developed. At the same time, because I contributed to the design of the research instrument and to the interpretation and dissemination of its primary findings, the present secondary analysis cannot be regarded as fully external to the production of the dataset. This proximity may influence the selection of analytical questions, the interpretation of patterns, and the policy significance attributed to particular findings. I therefore treat my institutional position explicitly as part of the research context rather than assuming a position of complete analytical detachment.

Nevertheless, several features of the research process help to maintain analytical distance between the institutional research programme and the doctoral analysis. Fieldwork and data collection were implemented by an external research company, Psyma Hungary Ltd., using standardised sampling and interviewing procedures. In the dissertation, previously published descriptive findings are distinguished from dissertation-specific secondary analyses, and inferential and cross-variable analyses conducted for the doctoral research are reported as a separate analytical layer. Non-significant findings are retained rather than selectively omitted, while methodological limitations and plausible alternative explanations are also considered explicitly. The precise delimitation between previously published NMHH findings and the dissertation-specific analytical contribution is detailed further in Section 4.5 and indicated throughout the Results chapter where relevant.

4.2 Participants and sampling

The target population comprised 7–16-year-old children living in private households in Hungary, together with one parent or legal guardian per child. According to the Hungarian Central Statistical Office (Központi Statisztikai Hivatal, KSH), this population totals approximately one million (precisely 965,204) children (Központi Statisztikai Hivatal, n.d.). In each wave of the *Digital Parenting Research* series, a sample of N = 2,000 children was selected, together with one parent or legal guardian from each child's household, yielding N = 2,000 matched parent–child dyads per wave. The same target-population definition and nominal sample size were applied in 2017, 2020, and 2024/25 to support comparability across survey waves.

Sampling followed a stratified random design. The settlement sample was stratified by settlement type (Budapest, county seat, town, and village), KSH statistical region, and the number of 7–16-year-old children living in each settlement, so that the intended sample distribution reflected the population distribution within each stratum. Within selected settlements, children were selected using simple random sampling procedures in accordance with applicable data-protection requirements. The same stratification criteria and selection procedures were applied across all three survey waves.

Post-stratification weighting was used to correct residual deviations between the achieved sample and the target population. The resulting weighted samples are nationally representative of the population of 7–16-year-old children in Hungary with respect to age, sex, settlement type, region, and the highest educational level of the household head. The weighting procedure and the construction of the composite weight variable are described in detail in Section 4.5. Because the same population benchmarks were used, the internal composition of the weighted sample is identical across the three survey waves. Age cohorts are approximately evenly represented between 7 and 16 years. Boys account for 51.3% of the weighted sample and girls for 48.7%. By settlement type, 14.5% of children live in Budapest, 15.9% in county seats, 36.6% in other towns, and 33.0% in villages. The regional distribution follows the official KSH classification (Central Hungary, Transdanubian regions, Northern Hungary, Northern Great Plain, Southern Great Plain), while the highest educational level of the household head is primary in 49.9% of cases, secondary in 26.7%, and tertiary in 23.4%.

The broader socio-demographic profile of respondents was also highly consistent across waves. The vast majority of child respondents were enrolled in primary school (2017: 78%; 2020: 78%; 2024/25: 79%), while approximately one-fifth attended secondary school in either general or vocational tracks. Most children lived in two-parent families (2017: 82%; 2020: 85%; 2024/25: 84%), while the proportion living in households without other minor children increased across the survey waves. Adult respondents were predominantly female (2017: 78%; 2020: 79%; 2024/25: 81%), most often the focal child's mother, and were typically aged between 30 and 50 years.

4.3 Measures

Data were collected using separate structured questionnaires for parents and children, administered face-to-face in each survey wave. A structured overview of the 2024/25 parent and child questionnaires is provided in Appendix 1, while the full questionnaire is available separately among the electronic appendices (Appendix 4). From the 2020 wave onwards, interviews were conducted using computer-assisted personal interviewing (CAPI). Both instruments combined blocks replicated from earlier waves with newly developed modules addressing emerging aspects of children's digital lives, such as artificial intelligence-related practices. Most items used closed response formats (nominal categories or Likert-type scales); where possible, wording and response options were held constant across waves to preserve comparability. In the 2024/25 wave, selected items from the child questionnaire—primarily those concerning frequency of internet and digital media use—were additionally administered to the parent, enabling direct within-dyad comparison of child self-reports and parental proxy reports on the same behaviours. Cross-wave analyses in the present dissertation are restricted to indicators for which sufficiently comparable wording and response formats were available across the relevant survey waves.

4.3.1 Children's questionnaire

The child questionnaire covered the following domains:

a. Media and device access: Children reported whether various media and digital devices (e.g., smart and conventional TVs, desktop and laptop computers, tablets, smartphones, handheld and TV-connected game consoles) were available in the household and whether they personally used or owned each device, including the location of personal devices (e.g., in their own bedroom vs. shared spaces).

b. Digital media use and screen time: Items assessed overall frequency of internet and digital media use, estimated daily screen time on weekdays and weekends, and frequency of using specific digital channels and services, such as streaming platforms, online video sites, social networking services, video calls, and online games. Parallel media use (simultaneous use of multiple media) was also measured.
c. Social networking and online communication: Children indicated whether they had registered profiles on social networking sites, which platforms they use (e.g., Facebook, Instagram, TikTok, Snapchat, Discord, YouTube), reported frequency of use, typical activities (e.g., chatting, posting, sharing images or videos), and privacy settings of their main profile.
d. Online risks and negative experiences: Age-appropriate modules (for 7–10-year-olds and 11–16-year-olds) asked about exposure in the past year to a wide range of online risks, including contact risks (e.g., approaches by strangers, deceptive profiles), content risks (e.g., violent or sexual content, self-harm–related material), conduct risks (e.g., cyberbullying, image-based abuse), and commercial or technical risks (e.g., malware, financial fraud). For each risk type, children indicated whether they had personally encountered it and, where relevant, how they felt and whether they sought help.
e. Problematic and intensive use: A set of items assessed possible negative consequences of digital media and internet use, such as conflicts with parents or peers, neglect of sleep or schoolwork, and unsuccessful attempts to reduce use, capturing aspects of potentially problematic or excessive engagement. These items are treated in the dissertation as PIU-consistent indicators rather than as a diagnostic or clinical measure of problematic internet use. The principal composite used in the analyses distinguishes children reporting at least one of the five examined indicators from those reporting none, while the frequency of the reported indicators is considered separately where relevant.
f. Perceptions of parental mediation and support: Children evaluated the presence and perceived fairness of household rules about internet and device use, how strictly they followed these rules, and how often parents talked with them about online opportunities and risks, co-used media with them, or checked their online activities.
g. Digital skills, attitudes, and AI-related experiences: Items captured self-reported digital competences, confidence in navigating online environments, familiarity with

key media concepts (e.g., streaming, podcasts, artificial intelligence), and attitudes toward AI in terms of perceived benefits and risks.

h. Socio-demographic background: Children reported basic educational and family background characteristics, such as school type and grade, perceived academic performance, household composition, and bedroom arrangements (e.g., own room vs. shared room).

For the purposes of the present dissertation, the child questionnaire provides the principal measures for RQ1 and RQ2 and several of the child-related outcomes examined under RQ5. These include indicators of internet and platform use, self-reported leisure screen time, social-media participation, PIU-consistent experiences, adverse online experiences and coping responses, anonymous-platform use, and responses to online contact from strangers. Age-sensitive modules are retained as such in the analyses; in particular, questions concerning more sensitive adverse online experiences are analysed only for the age groups to whom they were administered.

4.3.2 Parents' questionnaire

The parental questionnaire included domains that parallel and complement the child instrument:

a. Household media environment: Parents described the availability and placement of media and digital devices in the household and the type of internet access at home. They also reported on the focal child's digital device use from their own perspective.

b. Digital parenting and mediation practices: A multi-item battery assessed the presence of household rules regulating the child's internet and device use (e.g., limits on time of day and duration, restrictions on violent or sexual content, rules about sharing personal information or images, and conditions for installing applications or making online purchases). Additional items captured different forms of parental mediation, including active mediation (discussions about online content, opportunities, and risks), restrictive mediation (rules and prohibitions), co-use (joint media consumption), and monitoring (e.g., checking browsing history or social media activity). Parents also reported on the use of technical mediation tools such as content filters, time-management software, parental control settings on streaming platforms, and mobile-based restrictions or tracking applications.

For the analyses in the present dissertation, the relevant parental items were operationalised into four analytically separable mediation indicators: restriction, monitoring, active mediation, and technical restriction. These correspond to the four-strategy framework developed in Section 2.5, while reflecting the wording and structure of the survey instrument. For terminological clarity, active mediation, monitoring, and restriction are collectively referred to in the empirical chapters as parent-enacted mediation strategies when discussed in contrast to technical restriction. In addition to the four strategy-specific indicators, a dissertation-specific three-category composite was constructed to capture the breadth of the parental mediation repertoire: parents applying none of the four strategies were classified as passive, those applying one to three strategies as intermediate, and those applying all four as all-rounders. This simple breadth-based composite is analytically distinct from the multivariate parental segmentation reported in the primary NMHH report.

c. Parental digital self-perception, attitudes, and concerns: Likert-type items assessed parents' attitudes towards their child's internet use, their perceived competence and capacity to support the child in managing online risks, their own sense of safety and competence online, and their perceptions of the relative digital competence of parent and child. In the present dissertation, these related item-level measures are discussed under the broader heading of parental digital self-efficacy; however, self-efficacy was not operationalised through a separate validated multi-item parental digital self-efficacy scale. The term therefore refers to an item-based operationalisation of the theoretically relevant dimension rather than to a validated composite measure. A separate item battery assessed the degree of parental concern about a range of potential online risks to the child, using five-point Likert-type response scales.
d. Sharenting and privacy: Parents reported how often they share content about their child on social media, which audiences can view such posts, whether they usually consult the child or seek consent before posting, and whether sharing child-related content had led to any problems in the past year.
e. Information sources and support needs: Items asked parents where they currently receive information or advice about children's online safety (e.g., schools, peers, media, authorities, NGOs) and from which actors they would like to receive more support in the future.
f. Parental media use and literacy: Parents completed parallel questions about their traditional and digital media use, estimated daily screen time, and the frequency of

parallel media consumption. They also indicated whether they were familiar with selected media and technology concepts (e.g., AI, streaming services, podcasts) prior to the survey.

g. Socio-demographic characteristics: Finally, the parental questionnaire collected socio-demographic information on the responding parent and the household, including sex, age, relationship to the child, family structure, the respondent's and the household head's education, employment status and occupation, subjective income position, and perceived material living conditions.

The parent questionnaire thus provides the principal measures used for RQ3 and RQ4 and the parent-reported mediation indicators used in most of the cross-variable analyses under RQ5. Where parent and child variables are linked in RQ5, the specific informant source of each variable is identified in the corresponding analysis.

4.4 Procedure

Data collection for the 2024/25 wave was conducted by trained interviewers employed by Psyma Hungary Ltd. in late 2024 and early 2025; the 2017 and 2020 waves were fielded in the autumn of those respective years. Interviewers first conducted the parental interview. Subsequently, and conditional on written parental consent, they interviewed one 7–16-year-old child living in the same household. From the 2020 wave onwards, both interviews were administered using the CAPI system. Parents were permitted to be present during the child interview. In the 2024/25 wave, a parent was present in 78% of child interviews and remained throughout the entire interview in 50% of cases; these proportions were somewhat lower than those recorded in the earlier waves (2020: 87% and 58%; 2017: 86% and 66%, respectively). According to interviewers' field reports, parents exerted a substantial influence on their child's responses in approximately 14% of interviews and a minor influence in a further 27%, while in around 8% of interviews parental presence appeared to disturb the child. These proportions were broadly consistent across the three survey waves. The average interview duration was close to one hour in each wave (2017: 55 minutes; 2020: 54 minutes; 2024/25: 55 minutes).

To support children's comprehension and reduce response burden, interviewers used printed answer cards and visual aids, and children generally responded by indicating the corresponding code or letter. The module addressing online risks and adverse experiences received special procedural treatment because of the potentially sensitive nature of the

questions. Before administering this section, interviewers introduced the topic using a standardised framing statement acknowledging that the questions concerned experiences that might be difficult to discuss or might have left unpleasant memories. In the CAPI-administered waves, children were explicitly offered the option of completing this module by entering their answers directly on the CAPI device without reading their responses aloud. This procedure was intended to provide greater privacy, minimise the potentially inhibiting effect of parental presence, and reduce the risk of non-disclosure or underreporting of sensitive experiences. The relatively frequent presence of parents during child interviews remains relevant when interpreting children's self-reports, particularly for sensitive outcomes. Although the confidential response option was designed to mitigate this concern, parental presence and interviewer-reported parental influence cannot be assumed to have had no effect on children's responses and are therefore considered as potential measurement limitations in Section 8.2.

4.5 Data analysis

All analyses were performed on post-stratification weighted data using IBM SPSS Statistics (see Appendices 3 and 6). Residual deviations between the achieved sample and the target population were corrected using iterative proportional fitting: marginal distributions for sex, age, place of residence, and the highest educational level of the household head were matched to official population benchmarks, and weights for each variable were applied multiplicatively across successive iterations until convergence. The resulting composite weight variable reproduces the internal structure of the population of 7–16-year-old children in Hungary on the weighting variables, and the weighted sample composition is identical across the 2017, 2020, and 2024/25 survey waves.

The analytical strategy follows the structure of the five research questions. RQ1–RQ4 primarily use weighted descriptive statistics—including frequencies, percentages, means, and cross-wave comparisons—to characterise children's digital media lives and online experiences, parents' digital attitudes and concerns, and parental mediation practices. Selected descriptive distributions and cross-wave findings in these sections had previously been reported in the relevant NMHH research reports and are recontextualised in the dissertation within the scholarly framework developed in Chapter 2. Where analytically relevant, these descriptive findings are supplemented by dissertation-specific subgroup comparisons, inferential tests, effect-size estimates, matched parent–child comparisons,

scale construction and reliability analyses, and multivariable models. RQ5 adds a further dissertation-specific analytical layer by examining cross-variable associations between parental mediation and selected child-related outcomes. Thus, unless otherwise indicated, inferential analyses, effect-size estimates, matched parent–child comparisons, scale construction, reliability testing, regression-based modelling, and the cross-variable analyses reported in the Results chapter constitute secondary analyses conducted for the present dissertation rather than results reproduced from the primary NMHH reports.

Differences between subgroups—for example by child age, sex, school type, or socioeconomic characteristics—and between survey waves were examined using statistical procedures appropriate to the measurement level and distribution of the variables. For categorical variables, chi-square tests of independence were used, with Cramér's V reported as an effect-size measure; for binary 2 × 2 comparisons, the phi coefficient (φ) is reported where appropriate. For continuous outcomes and scale scores, independent-samples t-tests or one-way analyses of variance (ANOVA) were used when their assumptions were sufficiently met, with eta squared (η^2) reported where relevant to quantify effect size. For ordered or markedly non-normal variables, non-parametric alternatives were used, including Kruskal–Wallis H tests for multi-group comparisons and Mann–Whitney U tests for pairwise comparisons, with Holm correction applied where multiple post-hoc comparisons required control of the familywise error rate. Associations involving ordinal or non-normally distributed continuous variables were additionally examined using Spearman's rank-order correlation where appropriate.

The matched structure of the parent and child data was used selectively according to the analytical question. Where the same categorical behaviour or characteristic was reported independently by the parent and the corresponding child, McNemar's test was used to assess within-dyad differences. The internal consistency of multi-item composite measures was assessed using Cronbach's coefficient alpha (α). In analyses of factors associated with the adoption of individual parental mediation strategies under RQ4, binary logistic regression was used to examine the adjusted associations of relevant predictors, including child age, child sex, and parental educational background, with results reported as odds ratios (ORs) and 95% confidence intervals. These multivariable models should be distinguished from the predominantly bivariate analyses conducted under RQ5.

The analyses addressing RQ5 are exploratory and predominantly comprise unadjusted bivariate comparisons between parental mediation indicators and child-related outcomes. Depending on the outcome, these analyses use one-way ANOVA, chi-square tests, effect-size estimates, and unadjusted odds ratios with 95% confidence intervals. The four parental mediation strategies are examined both individually and through the dissertation-specific three-category mediation-breadth composite described in Section 4.3.2. Where the profile categories are compared on continuous outcomes and a substantively meaningful ordered pattern is examined, linear contrasts within one-way ANOVA are used to assess trend. Because child age is strongly associated with both the prevalence of several parental mediation strategies and a number of the examined child outcomes, and because the mediation strategies themselves frequently co-occur, the RQ5 associations should not be interpreted as independent effects of individual strategies. Their cross-sectional nature also precludes inference about causal direction or protective effects.

Several RQ5 analyses employ analytically restricted samples or additional data-handling procedures. Analyses of adverse online experiences are restricted to the age- and internet-use groups to whom the relevant items were administered, while analyses of parental disclosure following negative online experiences are restricted to children who reported at least one such experience. In the analysis of anonymous-platform use (Section 5.5.6), the outcome is treated as binary (yes/no); "don't know/no answer" responses, representing less than 0.5% of responses, are treated as missing.

A further qualification applies to the analysis of children's age at first personal device ownership. Because the distribution of mediation profiles differs by the child's current age and the typical age of device acquisition has itself changed historically, Section 5.5.1 includes a supplementary norm-adjusted cohort sensitivity analysis to examine the extent to which the observed cross-profile association may reflect differences in cohort composition. This analysis serves a specific sensitivity-checking purpose and should not be interpreted as a general age-adjusted or multivariable model of the association between parental mediation and digital entry.

Throughout the analyses, statistical significance is interpreted alongside the magnitude and substantive pattern of the observed associations. Non-significant findings are reported rather than selectively omitted, and effect sizes are considered when assessing the practical importance of statistically significant differences. Given the descriptive and exploratory

design of the dissertation, inferential statistics are used to identify and quantify patterns of association and population-level differences rather than to establish causal mechanisms. For transparency, Appendix 2 provides a consolidated comparison of the primary NMHH research reporting and the dissertation-specific secondary analysis, together with an overview of the analytical procedures used in the dissertation.

4.6 Ethical considerations

The *Digital Parenting Research* series was conducted in accordance with applicable Hungarian legislation and the European Union's General Data Protection Regulation (GDPR). Participation in the study was entirely voluntary. At the beginning of each household visit, interviewers—who had been prepared for the specificities of interviewing both adults and children—explained the purpose and scope of the research to the parent, who then provided written informed consent for their own participation and for their minor child's participation. Children were also informed in age-appropriate language about the aims of the study, the voluntary nature of participation, and their right to withdraw at any time.

Interviews were conducted in participants' households, and respondents were reminded that they could decline to answer any question without negative consequences. Particular attention was paid to questions concerning potentially sensitive online experiences. As described in Section 4.4, in the CAPI-administered waves children were offered the option of entering their responses to these items directly on the CAPI device rather than answering aloud, thereby providing an additional degree of privacy where parental presence might otherwise have inhibited disclosure.

The survey data used for analysis were stored and processed in anonymised form. Identifying information required temporarily for fieldwork administration and quality control was retained only for as long as necessary and was subsequently deleted in accordance with the applicable data-protection requirements. The present dissertation reports findings exclusively in aggregated form, so that no individual child, parent, or household can be identified from the reported results. The doctoral research involved secondary analysis of the existing anonymised survey data and did not entail renewed contact with participants or additional data collection from them. The secondary use of the dataset for the purposes of the present dissertation was formally authorised by the National Media and Infocommunications Authority of Hungary (see Appendix 7).

5. RESULTS

This chapter presents the empirical findings of the dissertation, organised around the five research questions formulated in Chapter 3. As the dissertation is based on a secondary analysis of the NMHH *Digital Parenting Research* series, the chapter incorporates both previously published descriptive findings and analyses conducted specifically for the present study. In Sections 5.1–5.4, weighted descriptive distributions and cross-wave trends that have already appeared in the relevant NMHH research reports are cited to their original source. The dissertation reorganises and synthesises these findings around the research questions, interprets the data, and supplements them with additional analyses. Unless otherwise indicated, the inferential analyses, effect-size estimates, matched parent–child comparisons, scale construction, reliability testing, and regression-based modelling presented in this chapter were conducted as part of the secondary analysis of the dataset and constitute original analytical contributions of this dissertation. In addition, Section 5.5 adds a further analytical layer by examining cross-variable associations between parental mediation indicators and eight child-related outcomes. The analyses link parent-reported mediation measures or rules to outcomes reported by the corresponding child within matched parent–child dyads. The chapter focuses on the empirical results; their interpretation in relation to the international literature, their theoretical significance, and their implications for digital parenting are developed in Chapter 6.

5.1 Children's digital media use and social media presence (RQ1)

This section addresses the first research question (RQ1) by examining the principal characteristics of Hungarian children's digital media lives. It begins with the devices available to and used by children in their households, before turning to their offline and online media consumption, patterns of internet use and leisure screen time, and presence on social networking platforms. It also examines how these patterns differ by age and how they have changed across the 2017, 2020, and 2024/25 survey waves.

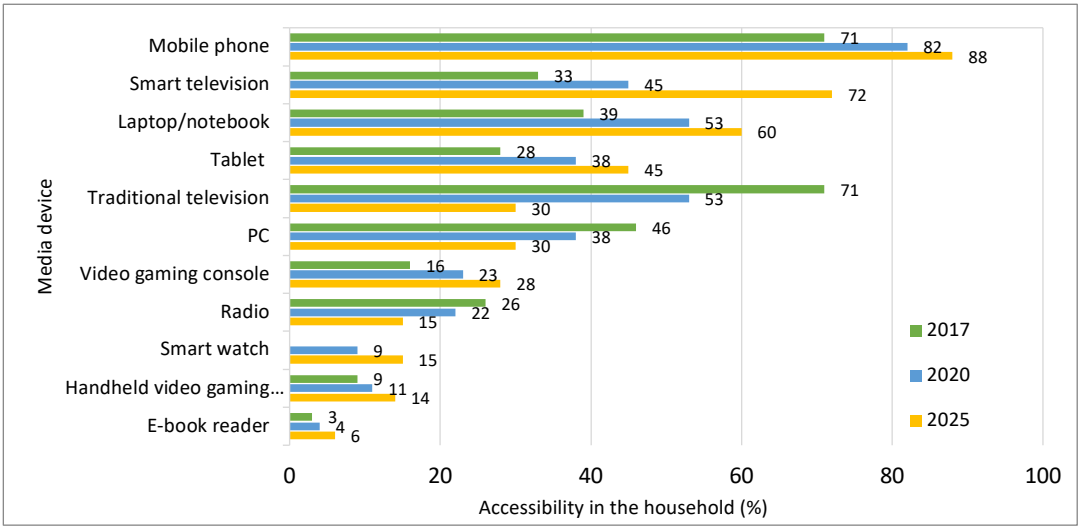
5.1.1 Children's device access and use

The device landscape available to Hungarian children has undergone substantial transformation across the three survey waves (see Figure 2). Traditional, offline media

devices—particularly conventional televisions and radios—have progressively lost ground, while internet-enabled devices continue to expand their presence in households (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 14). The most striking development in recent years has been the rapid rise and spread of smart televisions (72%), alongside the marked decline of conventional television use (30%). For the cohort as a whole, the three most widely used device categories in 2025 were the mobile phone (88%), followed by the smart television (72%), and then the laptop/notebook (60%) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 14). On the separate measure of near-daily use, 2025 was also the first wave in which three device categories simultaneously reached the 50% threshold: smartphones were used almost every day by 80% of children, smart televisions by 67%, and laptops/notebooks by 50% (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 21). Taken together, these patterns indicate a clear shift towards an increasingly connected, mobile, and personalised childhood media environment.

Figure 2

The proportion of households in which each media device was available and used by the child, by survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 14), based on the same dataset

The spread of personal device ownership further reinforces this shift, with substantial growth across most categories since 2017 and particularly marked increases in several categories between 2020 and 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 16). The proportion of children with a personal mobile phone increased from 62% in 2017 to 66% in 2020 and 73% in 2025. Age-specific ownership in 2025 likewise increased markedly with age: 29% of 7–8-year-olds, 61% of 9–10-year-olds, 83% of 11–12-year-olds, 96% of 13–14-year-olds, and 99% of 15–16-year-olds had a personal mobile phone (Nemzeti Média- és

Hírközlési Hatóság, 2025, p. 17). Beyond its widespread availability, the mobile phone also occupies a particularly prominent position in children's media repertoires: 60% reported that it was the device they would miss most if they could no longer use it, substantially exceeding the next most frequently selected category, the smart television (10%) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 22). The selection of the mobile phone varied significantly by age group ($\chi^2(4) = 94.61$, $p < .001$), and that girls were significantly more likely than boys to identify it as the device they would miss most ($\chi^2(1) = 4.93$, $p = .026$).

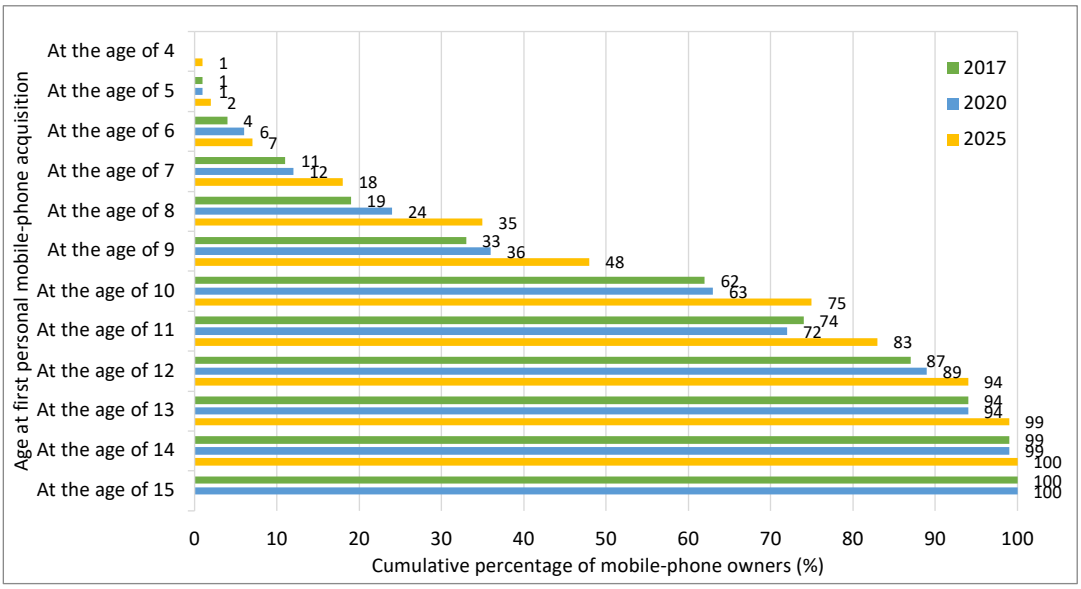
A breakdown of the data by age shows that, while television remains the most widely used device category among 7–10-year-olds, from the 11–12-year-old age group onwards, the mobile phone takes the lead (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 14–15). Mobile-phone use was significantly associated with age group ($\chi^2(4) = 372.91$, $p < .001$): in 2025, 88% of the entire cohort used a mobile phone, with the proportion increasing from 64% among 7–8-year-olds to 84% among 9–10-year-olds, 94% among 11–12-year-olds, 99% among 13–14-year-olds, and 100% among 15–16-year-olds. No statistically significant sex difference was observed in mobile-phone use ($\chi^2(1) = 0.03$, $p = .854$).

The pattern of personal mobile-phone acquisition (see Figure 3) illustrates one of the most consequential trends in the dataset. Among children who currently had a personal mobile phone, the mean age at which they obtained their first personal mobile phone stood at approximately 10 years in the earlier waves (10.17 years in 2017; 10.04 years in 2020). By 2025, however, the mean had declined to 9.39 years, placing the average age of first personal mobile-phone acquisition below 10 among current owners (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 19).

The distribution of acquisition ages further illustrates this downward shift. In 2025, 28% of children who currently had a personal mobile phone had received their first device at the age of 7 or 8, compared with 19% in 2020 and 16% in 2017 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 18). The 2025 proportion was significantly higher than in both earlier waves (both $p < .001$). This downward shift extends even to preschool ages: 7% of current mobile-phone owners had received their first device between the ages of 4 and 6 in 2025, compared with 6% in 2020 and 4% in 2017; the difference between 2017 and 2025 was statistically significant ($p < .001$).

Figure 3

Cumulative distribution of age at first personal mobile-phone acquisition among children who currently have a personal mobile phone, by survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 19), based on the same dataset

Among children who currently had a personal mobile phone, 96% had a smartphone in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 20). This proportion increased significantly from 92% among 7–8-year-olds to 98% among 15–16-year-olds ($\chi^2(4) = 15.31$, $p = .004$), while no statistically significant sex difference was detected ($\chi^2(1) = 0.03$, $p = .860$). In more than half of these cases (57%), the phone also had a mobile data subscription (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 20), thereby providing the possibility of internet access on the child's own device without relying on Wi-Fi.

Across all device categories examined in this section, no statistically significant sex differences emerged in access or use (all $p > .05$), while substantial age-related variation was observed. Sex-related differences, where relevant, emerge more clearly in the content and purposes of media use discussed in Section 5.1.2. Overall, the findings document both the growing centrality of personal, internet-enabled devices in children's media environments and an increasing normalisation of personal mobile-phone access before adolescence. The implications of this increasingly early and individualised connectivity for parental mediation are considered in Chapter 6.

5.1.2 Children's media content consumption

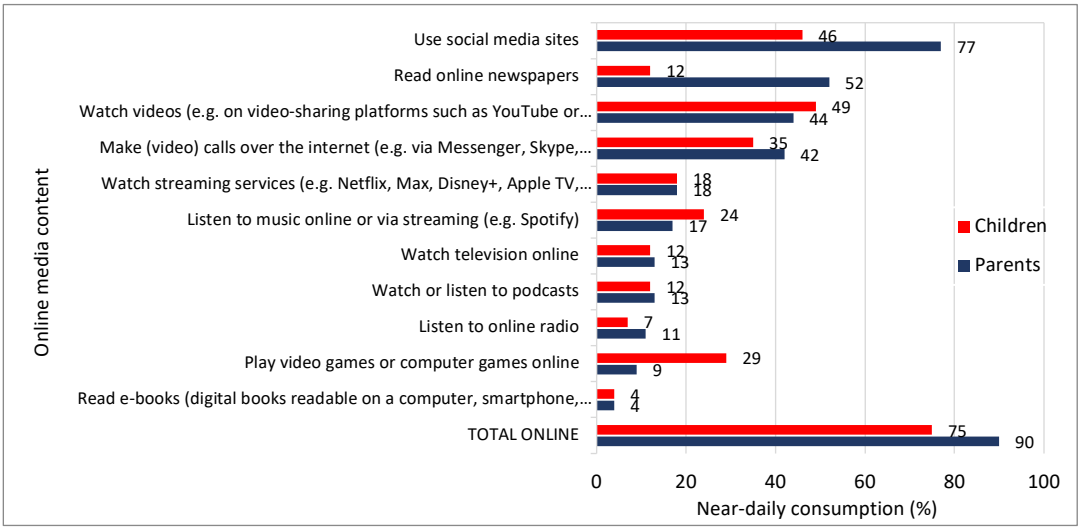
The survey examined children's media use not only in terms of devices but also by content type, distinguishing between offline (non-digital) and online (digital) media. In the survey,

this distinction was defined primarily by the delivery mechanism: whether a given content type reaches the consumer via the internet or through traditional broadcast or print channels (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 24). Compared with the parent sample, children consume offline media content on a near-daily basis somewhat less frequently overall (81% vs. 88%), and their offline consumption is strongly concentrated around conventional television (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 25). Among children, 82% of 7–8-year-olds report watching conventional television almost every day, but this proportion falls to 65% among 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 27), representing a statistically significant age-group difference ($\chi^2(4) = 34.46$, $p < .001$). The corresponding overall figure among parents is 84% (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 25). Near-daily consumption of printed newspapers and magazines and traditional radio is substantially less prevalent among children than among their parents (4% vs. 8% and 9% vs. 29%, respectively), whereas printed-book reading shows the opposite pattern (28% vs. 8%) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 25). Taken together, these findings show that conventional television remains the dominant form of near-daily offline media consumption among children, while other offline media occupy a considerably smaller or more differentiated position in their media repertoires.

Near-daily online media consumption displays the opposite age pattern (see Figure 4). The overall proportion of children consuming at least one form of online media content almost every day increases monotonically with age, from 51% among 7–8-year-olds to 93% among 15–16-year-olds, with the latter figure exceeding the overall rate among parents (90%) (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 26, 28). The association between age group and near-daily online media consumption is statistically significant ($\chi^2(4) = 252.55$, $p < .001$). Descriptively, these age-related patterns mark a reversal in the relative predominance of offline and online media across childhood: among 7–8-year-olds, near-daily offline consumption remains more prevalent than online consumption (85% vs. 51%), whereas among 15–16-year-olds online consumption clearly predominates (93% vs. 71%) (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 27–28).

Figure 4

Near-daily consumption of online media content among children and their parents (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 26), based on the same dataset

Parallel media consumption—a form of media multitasking involving the simultaneous consumption of more than one media channel—is another practice that becomes increasingly common with age: 39% of 7–8-year-olds engage in it at least weekly, compared with 81% of 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 30), and the association with age group is statistically significant ($\chi^2(4) = 181.94$, $p < .001$). Parallel media consumption is also common among parents, 67% of whom report engaging in it at least weekly (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 30). No statistically significant sex differences emerged in either near-daily conventional television viewing or parallel media consumption (both $p > .30$).

In terms of the functions of online media use, children's primary uses fall into three broad categories: entertainment, communication, and knowledge acquisition or learning. Among children who use the internet at least weekly, the relative importance of these functions varies substantially by age (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 56), with a statistically significant association between age group and the most prioritised online function ($\chi^2(8) = 113.06$, $p < .001$, Cramér's $V = .180$). Among 7–8-year-olds, entertainment clearly dominates: 62% identify "leisure and entertainment (games, videos, music)" as the internet's most important function. With increasing age, "communication and social contact (chatting)" becomes progressively more prominent, reaching 48% among 15–16-year-olds and constituting the largest single category in this age group. By contrast, "knowledge acquisition and learning" remains comparatively stable across age groups, ranging between

20% and 26%, without a clear age gradient (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 56).

Overall, the findings indicate a marked shift from predominantly entertainment-oriented online use in younger childhood towards increasingly communication-oriented use in adolescence. The implications of this age-related shift for children's online experiences and parental mediation are considered in Chapter 6. A statistically significant but small association was also found between primary online function and sex ($\chi^2(2) = 15.06$, $p < .001$, Cramér's V = .091): a higher proportion of boys than girls identified leisure and entertainment as their primary online function (47% vs. 38%), whereas girls more often prioritised communication (37% vs. 31%) and, to a lesser extent, learning (26% vs. 22%).

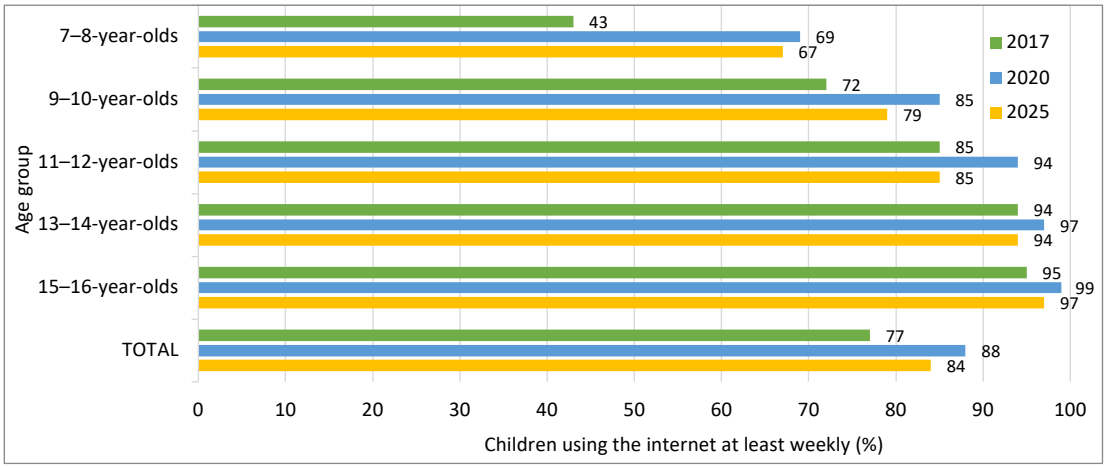
5.1.3 Children's internet access and use

Beyond device access and content type, a further critical dimension of children's digital media use concerns the regularity of their internet engagement. Regular internet use—defined here as accessing the internet at least once a week—is widespread among 7–16-year-old children in Hungary. At the aggregate level, 84% of children reported using the internet at least weekly in 2025. Across the three survey waves, this proportion increased from 77% in 2017 to 88% in 2020, before declining to 84% in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 39); both cross-wave differences were statistically significant (both $p < .001$). The 2020 peak coincided with the COVID-19 pandemic and the introduction of compulsory digital schooling, which can be identified as an important contextual factor in the increase (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 39).

Behind this aggregate trajectory lies a pronounced age gradient in regular internet use (see Figure 5). In 2025, the proportion increased from 67% among 7–8-year-olds to 79% among 9–10-year-olds, 85% among 11–12-year-olds, 94% among 13–14-year-olds, and 97% among 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 39). The association between age group and regular internet use was statistically significant and of moderate magnitude ($\chi^2(4) = 188.01$, $p < .001$, Cramér's V = .31). By contrast, no statistically significant association was observed between sex and regular internet use ($\chi^2(1) = 0.14$, $p = .703$). Thus, while weekly internet use is already widespread in the youngest age group, it becomes close to universal among older adolescents.

Figure 5

Proportion of children using the internet at least weekly, by age group and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 39), based on the same dataset

A second age-related pattern concerns agreement between children's self-reports and parental proxy reports. Parental proxy reports yielded a higher overall estimate of regular internet use in 2025 than children's self-reports (89% vs. 84%), with the discrepancy concentrated primarily among younger children (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 39). Within matched parent–child dyads, statistically significant discrepancies were found among 7–8-year-olds (67% child self-report vs. 74% parental proxy; McNemar $\chi^2(1) = 9.01$, $p = .003$), 9–10-year-olds (79% vs. 89%; McNemar $\chi^2(1) = 17.56$, $p < .001$), and 11–12-year-olds (85% vs. 94%; McNemar $\chi^2(1) = 23.67$, $p < .001$). By contrast, the differences were no longer statistically significant in the two oldest age groups (13–14-year-olds: McNemar $\chi^2(1) = 0.43$, $p = .511$; 15–16-year-olds: McNemar $\chi^2(1) = 1.88$, $p = .170$).

These discrepancies should be interpreted as differences between reporting sources rather than as evidence that either source provides an objectively more accurate estimate. Previous research indicates that younger children may experience greater difficulty in accurately reporting aspects of their own media behaviour, while parental proxy reports may themselves be affected by recall error and limited observation (Browne et al., 2021; Beynon et al., 2024). These measurement considerations are discussed further in Section 8.2.

Beyond how regularly children go online, the devices through which they access the internet have also changed substantially. Among children who use the internet at least weekly, the smartphone is by far the most widely used access device: 88% used a smartphone to go online in 2025, compared with 79% in 2020 and 61% in 2017 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 40). This growing smartphone dominance has occurred alongside a

broader diversification of internet-access devices rather than a simple displacement of computer-based access. While PC use declined from 50% in 2017 to 25% in 2025, use of laptops/notebooks, tablets, smart televisions, game consoles, and smart watches for internet access became more widespread over the survey period, with the strongest increase since 2020 observed for smart televisions (17% to 41%) (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 40–41). Among 7–10-year-olds, tablets retain a particularly important supplementary role: 48% use a tablet to access the internet, compared with 77% who use a mobile phone, while mobile-phone use reaches 95% among 14–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 41). Taken together, these patterns depict internet use that becomes increasingly pervasive with age and increasingly centred on personal mobile access, while remaining distributed across a widening range of connected devices.

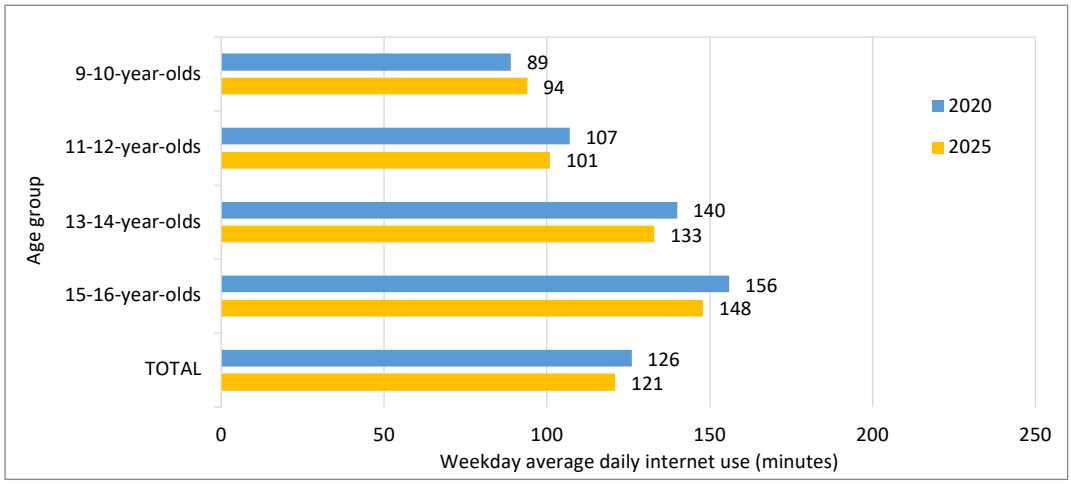
5.1.4 Children's screen time

One of the most frequently discussed indicators of the quantity of media use is screen time. The research measured internet-related leisure screen time among children aged 9–16 and their parents. The question explicitly excluded educational use at school for children and job-related use at workplaces for parents, focusing on free-time and leisure-oriented internet use outside formal instruction and work. Estimated total screen time across devices was examined separately for a typical weekday (school day) and a typical weekend or holiday day.

As shown in Figure 6, weekday leisure screen time remained strongly differentiated by age in 2025. Average daily use increased from 94 minutes among 9–10-year-olds (SD = 68) to 148 minutes among 15–16-year-olds (SD = 93), resulting in an overall average of 121 minutes among 9–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 33). The association with age was statistically significant, with a moderate effect size ($F(3, 1203) = 34.51$, $p < .001$, $\eta^2 = .08$). No statistically significant variation by settlement type was observed. At the aggregate level, weekday leisure screen time changed relatively little between the two most recent survey waves, decreasing from 126 minutes in 2020 to 121 minutes in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 33).

Figure 6

The amount of time children spend using the internet for leisure (non-school) purposes on weekdays (daily average in minutes)



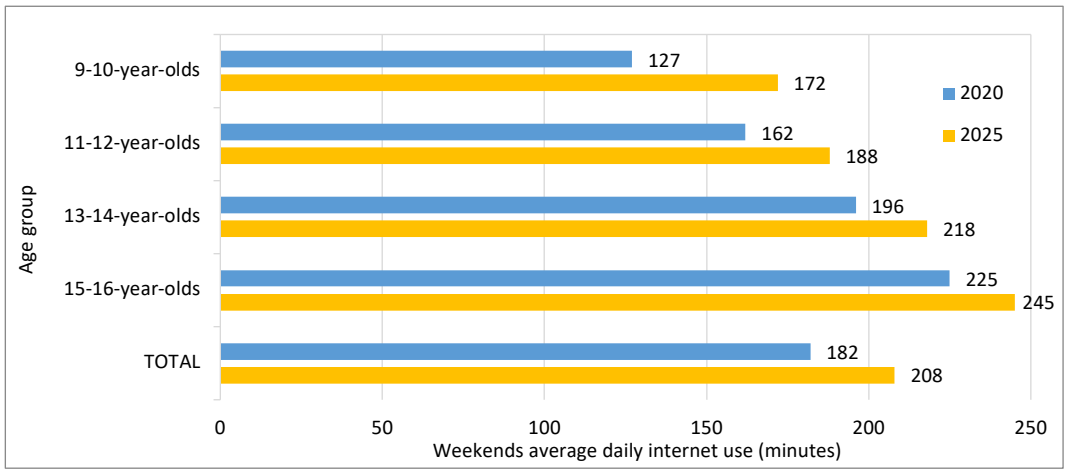
Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 33), based on the same dataset

The relative stability of weekday leisure screen time compared with the 2020 wave warrants careful interpretation. One possible explanation concerns measurement and perception. From the 2024/25 school year, personal mobile phone use became substantially more restricted during the school day, and this change in everyday context may have influenced how children recalled or estimated their weekday screen use. Previous research has documented discrepancies in self-reported screen-time estimates and highlighted the potential role of recall and estimation error (Browne et al., 2021; Beynon et al., 2024). However, because the present measure explicitly excludes school-related use, the data do not allow this possibility to be tested directly. A second, likewise hypothetical explanation is that school-based restrictions may have had some indirect spillover into leisure-time routines, although no measures in the present study permit such an effect to be established. Third, the 2020 wave was conducted during the exceptional circumstances of the COVID-19 pandemic, when digital-device use and screen time were unusually elevated in many contexts; the modest decline observed by 2025 may therefore partly reflect a return from this elevated level. Notably, the weekend pattern differs: rather than remaining relatively stable, weekend leisure screen time increased substantially between 2020 and 2025 (see Figure 7). This weekday–weekend divergence is compatible with context-specific explanations, although the present data cannot determine which of these mechanisms, if any, accounts for the observed pattern.

Unlike weekday use, weekend and holiday leisure screen time increased substantially between 2020 and 2025 (see Figure 7), from an average of 182 minutes to 208 minutes per day. The largest increase occurred among 9–10-year-olds, whose average rose by 45 minutes, from 127 to 172 minutes. In 2025, weekend screen time increased steadily across age groups, from 172 minutes among 9–10-year-olds to 188 minutes among 11–12-year-olds, 218 minutes among 13–14-year-olds, and 245 minutes among 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 33). Age-group differences were statistically significant ($F(3, 1183) = 24.08$, $p < .001$, $\eta^2 = .058$). Within the matched sample, children reported an average of 74 minutes more leisure screen time on weekend days than on weekdays (paired $t(1180) = 32.55$, $p < .001$). Taken together, the diverging weekday and weekend trajectories indicate that the most pronounced recent increase in children's leisure screen time has occurred outside the school-week context, particularly among the youngest age group included in the measure.

Figure 7

The amount of time children spend using the internet for leisure (non-school) purposes on weekends (daily average in minutes)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 33), based on the same dataset

Placing children's screen time alongside that of their parents reveals a further age-related pattern. On weekdays, parents of 9–10-year-olds reported more leisure screen time than their children (111 vs. 94 minutes), whereas among 15–16-year-olds the direction was reversed (106 vs. 148 minutes). Within matched parent–child dyads, both differences were statistically significant (9–10-year-olds: paired $t = 4.87$, $p < .001$; 15–16-year-olds: paired $t = 6.85$, $p < .001$). On weekends, children's average leisure screen time exceeded that of their parents in every age group. At the same time, parental weekend screen time itself increased substantially between survey waves, from an overall average of 123 minutes in 2020 to 159

minutes in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 34). This parallel increase situates children's screen use within a broader shared household media environment rather than as an exclusively child-specific development.

The matched parent–child structure further makes it possible to examine whether parents' and children's leisure screen time covary within the same household. Moderate positive correlations emerged on both weekdays ($r = .38$, $N = 1{,}112$, $p < .001$) and weekends ($r = .35$, $N = 1{,}094$, $p < .001$), with the magnitude of the association remaining broadly similar across age groups ($r = .38$–$.46$). Thus, higher parental screen time tended to co-occur with higher child screen time throughout the age range examined. This pattern is consistent with parental-modelling accounts in the literature (Holmgren et al., 2024; Pyne et al., 2025) and suggests that family-level media routines may remain relevant throughout later childhood and adolescence. However, the cross-sectional associations do not establish a modelling mechanism or the direction of influence; shared household routines and other common factors may also contribute to the observed relationship. Overall, the findings show that children's leisure screen time is strongly age-related, has increased particularly on weekends since 2020, and covaries with parental screen time within households.

5.1.5 Children's use of social networking sites

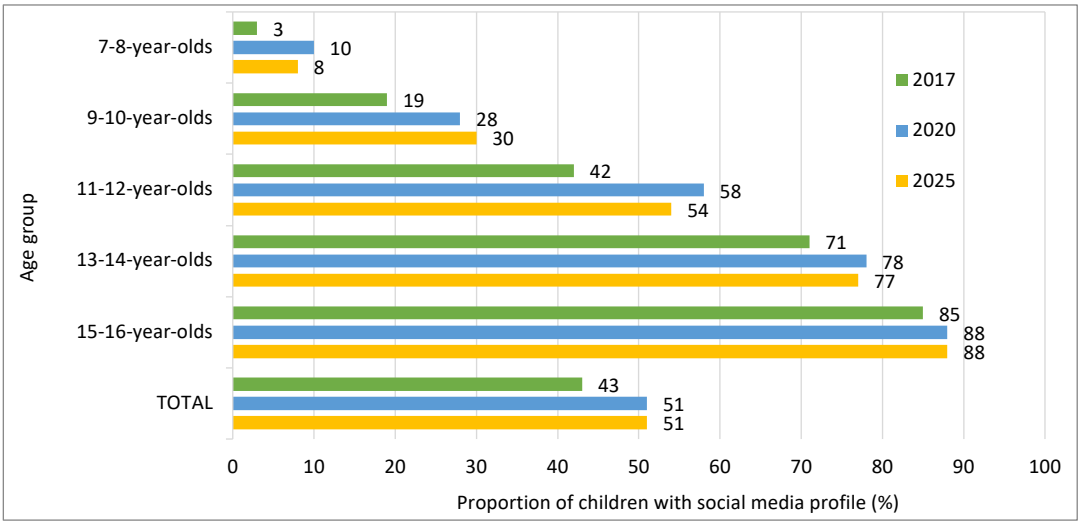
The importance of social networking sites in children's media use is clearly reflected in their early appearance in children's lives. Social networking behaviour was examined primarily with reference to registration-based platforms that require a personal profile. The overall proportion of children with at least one registered social media profile remained unchanged between 2020 and 2025, at 51%. This aggregate stability, however, coexists with continued early entry into social media environments (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 61).

Among children who currently have a registered social media profile, the mean age of first registration declined across the three survey waves. In 2017, the average age of first social media registration was 11.57 years; this decreased to 11.07 years in 2020 and to 10.89 years in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 62–63). The 2025 mean thus remained well below the 13-year minimum age commonly applied by major social media platforms. Current profile ownership also shows a pronounced age gradient: 30% of 9–10-year-olds and 54% of 11–12-year-olds report having an active registered profile, with the proportion increasing from 8% among 7–8-year-olds to 88% among 15–16-year-olds ($\chi^2(4)$

= 584.13, p < .001) (see Figure 8). Among 7–12-year-olds, this represents approximately one-third (31%) of the population who are present on social media despite not being officially permitted to do so. This also means they may be exposed to content, communication patterns, and behaviours that are meant for older users and may not be appropriate for their age (although such exposure was not directly measured in the present analysis). No significant sex difference emerged in overall registration status ($\chi^2(1) = 0.64$, $p = .425$).

Figure 8

Proportion of children with their own account or profile on a social media platform, by age group and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 60), based on the same dataset

Regarding typical social media activities, chatting with acquaintances and content consumption—particularly viewing images and videos—are the predominant activities, with visual rather than textual content strongly preferred. More production-oriented activities, such as sharing original content or posting, are more common among older age groups (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 73). More than one-third (35%) of 14–16-year-old social media users report chatting with strangers to get to know them and form relationships at least occasionally, and 17% do so frequently or very frequently. The corresponding proportions are 20% and 10%, respectively, among 11–13-year-olds, and 18% and 11% among 7–10-year-olds. The proportion of children reporting this activity at least occasionally differs significantly by age group ($\chi^2(4) = 47.18$, $p < .001$, Cramér's V = .154), indicating a modest association. Thus, approximately one in ten social-media-using children aged 7–10 report that they often or very often chat online with strangers for the purpose of getting to know them.

Across the full child sample, approximately half (51%) use a registration-required social networking or messaging platform, while 25% use a communication-oriented platform that does not require registration and may therefore permit anonymous use (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 72). Use of these registration-free platforms differs significantly by age group ($\chi^2(4) = 29.43$, $p < .001$, Cramér's V = .121), increasing from 14% among 7–8-year-olds to 33% among 14–16-year-olds. Online gaming platforms with in-game chat functions are also widely used, by 40% of children. Their use is significantly more common among boys than girls ($\chi^2(1) = 84.11$, $p < .001$, Cramér's V = .205) and is also associated with age ($\chi^2(4) = 22.37$, $p < .001$, Cramér's V = .106).

Children who use social media also visit their preferred platforms frequently. Approximately one in ten users checks their main social media site every 10–20 minutes, while about one in five checks it at least every one to two hours; more intensive use is more common among older children (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 71). Among children with registered social media profiles, the mean number of social media platforms used on a daily basis is 3.13. This number increases significantly with age ($H(4) = 61.44$, $p < .001$, $\eta^2 = .060$) and is marginally higher among children living in towns and cities ($r = .058$), though the effect size indicates negligible practical relevance.

The platform landscape has also undergone a marked shift between 2020 and 2025. The most striking change is the rise of TikTok: among children with registered social media profiles, its user share increased from 48% in 2020 to 72% in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 64–65). This 24-percentage-point increase is statistically significant and substantial in magnitude (Cohen's h = .496), approaching the conventional threshold for a large effect. The shift is also visible in daily use, with the proportion of profile holders using TikTok daily increasing from 38% in 2020 to 51% in 2025. Over the same period, daily YouTube use declined from 34% to 30%, while daily Facebook use remained comparatively stable (84% in 2020 and 86% in 2025) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 66).

A further notable trend concerns the information children provide about themselves online. Among children with a social media profile, the proportion reporting that they had provided non-genuine personal information on their main profile increased from 23% in 2020 to 35% in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 79). Taken together, these findings indicate that although the overall prevalence of registered social media participation has remained relatively stable since 2020, entry remains early, while the intensity,

communicative forms, and platform composition of children's social media use continue to change.

5.2 Children's digital attitudes, problematic internet use, and adverse online experiences (RQ2)

This section addresses the second research question (RQ2) by examining three interrelated dimensions of children's digital experience in Hungary: their attitudes and self-perceptions regarding the digital environment, patterns of problematic internet use, and adverse online experiences and coping responses. It begins with children's general orientation towards the digital environment, then turns to indicators of potentially problematic internet use, and concludes with the spectrum of online risks, harms, and infringements reported by 11–16-year-olds and the strategies they use to respond to them. Across these domains, particular attention is paid to age-related differences. The sequence moves from the broader dispositional context of children's relationship with digital media towards increasingly specific behavioural and experiential outcomes. Although these domains are conceptually related, the analyses presented here examine their respective patterns rather than assuming causal relationships between them.

5.2.1 Children's digital attitudes and self-perception

Children's attitudes towards the digital media environment are characterised overall by a positive orientation. On a five-point scale (where 1 = strongly disagree and 5 = strongly agree), respondents expressed a mean level of agreement of 3.96 with the statement "there are many things on the internet that are good for children my age" (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 53; one-sample $t(1,799) = 42.87$, $p < .001$, $d = 1.01$), whereas the statement "I consider the internet a dangerous place" received a considerably lower mean rating of 2.57 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 53). This generally positive orientation is also reflected in children's reported experiences with internet use. Educational support was the most widely reported benefit: 81% indicated that internet use had helped them with learning at least occasionally (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 55), a proportion significantly above the 50% reference threshold (Cohen's $h = .669$). In addition, 45% reported having made friends through internet use ($z = -4.26$, $p < .001$ relative to the 50% threshold), while 31% reported having used the internet to meet or get to know people (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 55).

Positive experiences nevertheless coexist with negative aspects of children's online lives. Half of respondents (50%) reported having had arguments with their parents because of their internet use, while 27% reported having felt bad because of something they had seen online (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 55); the latter proportion was significantly below the 50% reference threshold (Cohen's h = .478). Taken together, these findings indicate that a predominantly positive orientation towards the internet can coexist with relatively common interpersonal tensions and negative emotional experiences rather than implying an unreservedly positive relationship with the digital environment.

Against this broadly positive backdrop, the clearest age-related shift concerns children's perceptions of their own digital knowledge relative to that of their parents. Agreement with the statement that parents know more about the correct use of the internet than the child declined from M = 3.98 among 7–10-year-olds to M = 3.33 among 11–13-year-olds and M = 2.71 among 14–16-year-olds. A similar pattern emerged for learning new things about the internet from parents, with mean agreement declining from 3.63 to 3.13 and 2.69 across the same age groups (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 54). By contrast, the general perception that the internet contains many things that are good for children of the respondent's age remained comparatively stable across the three age groups (M = 3.91, 4.01, and 3.96, respectively). Thus, the principal age-related difference in these attitudinal measures concerns children's perceived position relative to parental digital knowledge rather than their overall positive orientation towards the internet. However, as these are cross-sectional age-group differences, they should not be interpreted as demonstrating individual developmental change.

Children's assessments of information credibility reveal a further dimension of their relationship with the digital environment. Among 11–16-year-olds who used the internet at least weekly, Google search results and Wikipedia received the highest credibility assessments, while social media was rated as the least credible of the information sources examined (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 149). Nevertheless, 68% of respondents regarded information encountered on social media as almost always or mostly true, a proportion significantly above the 50% reference threshold (Cohen's h = .368). Artificial intelligence had also become part of children's information-searching practices: 52% reported using AI for information searches, although only 25% did so frequently or very frequently (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 148). These findings indicate that children differentiate between information sources while nevertheless

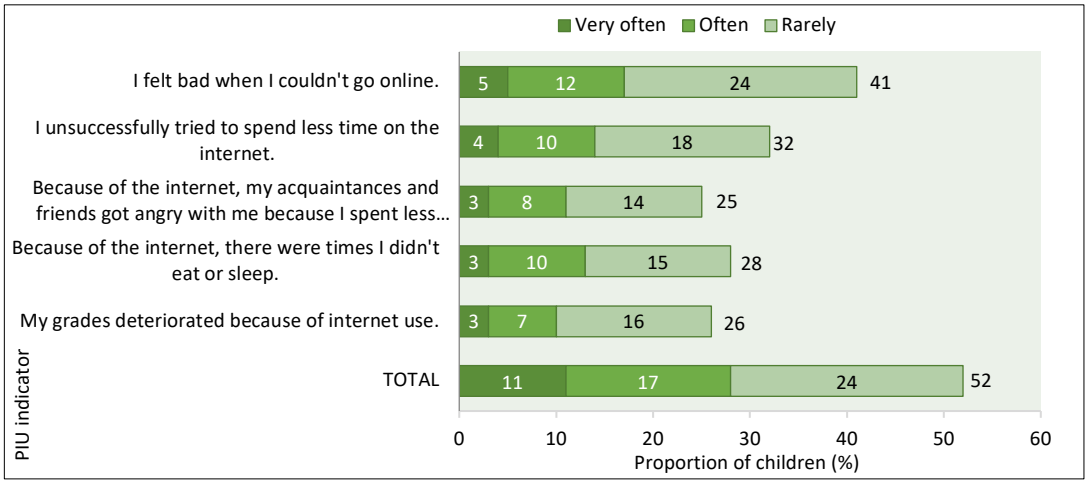
attributing relatively high credibility even to sources they regard as less reliable. Importantly, these measures capture perceived credibility and reported information-search practices rather than demonstrated critical-evaluation skills; they therefore do not in themselves establish limited critical information literacy or susceptibility to misinformation. They do, however, raise relevant questions about critical source evaluation, particularly as AI-based tools become increasingly integrated into children's information-searching practices.

5.2.2 Children's problematic internet use

Alongside the expansion in children's internet access and screen time documented in Sections 5.1.3 and 5.1.4, the survey examined a set of behavioural indicators associated with potentially problematic internet use (PIU). The analyses in this subsection are based on children who reported using the internet at least weekly and provided valid responses to the relevant items. Five indicators captured possible negative consequences of internet and mobile use during the previous year: feeling bad when unable to go online, unsuccessful attempts to reduce time spent online, friends or acquaintances becoming upset because the child spent less time with them, neglect of eating or sleeping because of internet use, and deterioration in school grades. These items capture aspects of impaired control and displacement of other life domains and are broadly consistent with symptom-based approaches to problematic internet use discussed in the literature (Smahel et al., 2020; Škařupová et al., 2015). However, they do not constitute a clinical or diagnostic assessment of PIU; accordingly, the findings below are interpreted as PIU-consistent indicators rather than as estimates of the prevalence of internet addiction.

Figure 9

The frequency of PIU indicators during internet/mobile use in the past year (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 51), based on the same dataset

In the 2024/2025 wave, 52% of respondents reported at least one of the five PIU-consistent indicators with some frequency during the previous year (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 51). The most commonly reported indicator was feeling bad when unable to go online (41%), followed by unsuccessful attempts to reduce time spent online (32%), neglect of eating or sleeping (28%), deterioration in school grades (26%), and friends or acquaintances becoming upset because the child spent less time with them (25%) (see Figure 9). The aggregate proportion reporting at least one indicator at any frequency increased from 45% in 2020 to 52% in 2025, a statistically significant seven-percentage-point difference (Cohen's h = .140), although the effect size is small. This increase is noteworthy when considered alongside two broader changes documented in RQ1: over the same period, children's weekend leisure screen time increased substantially, while the age of first personal mobile-phone acquisition shifted downward (see Sections 5.1.4 and 5.1.1). These concurrent trends provide relevant context for the increase in PIU-consistent indicators, although the present analyses do not establish that either change contributed causally to it. The frequency distribution provides important additional context: in 2025, 11% reported at least one of the five indicators very frequently, a further 17% frequently, and 24% only rarely, while 48% reported none of the five indicators (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 51–52).

The relationship with leisure screen time provides additional evidence that these indicators are associated with more intensive internet use, although the two constructs should not be conflated. Children reporting at least one PIU-consistent indicator also reported higher weekend leisure screen time than those reporting none (M = 371 vs. 279 minutes per day, $t(\approx 1{,}470) = 4.98$, $p < .001$). In addition, the number of PIU-consistent indicators reported showed a small positive correlation with weekend leisure screen time ($r = .15$, $p < .001$). These results indicate an association between greater leisure screen exposure and the reported negative consequences captured by the five items, but do not establish that longer screen time causes problematic use or vice versa. The distinction is important because, as discussed in Section 2.3.1, intensive use and problematic use are conceptually related but not equivalent.

Age represents the clearest source of variation in the composite indicator. In 2025, the proportion of children reporting at least one PIU-consistent indicator at any frequency increased from 38% among 7–8-year-olds to 66% among 15–16-year-olds (Cohen's h =

.568). The same age-related pattern is visible when a higher frequency threshold is considered: the proportion reporting at least one indicator frequently or very frequently increased from 18% among 7–8-year-olds to 38% among 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 52). These cross-sectional age-group differences indicate that PIU-consistent experiences are substantially more common among older children in the 2025 sample. They should not, however, be interpreted as demonstrating an individual developmental progression from lower to higher problematic use. By contrast, no statistically significant association with sex was found for the binary indicator ($\chi^2(1) = 2.10$, $p = .15$; boys: 54.2%, girls: 50.6%; Cohen's $h = .072$), suggesting little evidence of a meaningful sex difference in this sample.

A supplementary dyadic analysis examined how children's PIU-consistent indicators related to parental perceptions and media use. Parents of children reporting at least one such indicator expressed greater concern about the amount of time their child spent with digital media than parents of children reporting none ($M = 3.09$ vs. 2.78 on a five-point scale; Cohen's $d = .30$). Parental weekday screen time was also weakly positively associated with the number of PIU-consistent indicators reported by the child ($r = .10$, $p < .001$) and with parents' own level of concern about their child's digital media use ($r = .12$, $p < .001$). Taken together, these small cross-sectional associations point to modest family-level covariation between parental media use, children's PIU-consistent experiences, and parental concern. They are compatible with the broader relevance of shared household media routines, but do not establish parental modelling, normalisation, or the direction of influence.

5.2.3 Children's adverse online experiences and coping strategies

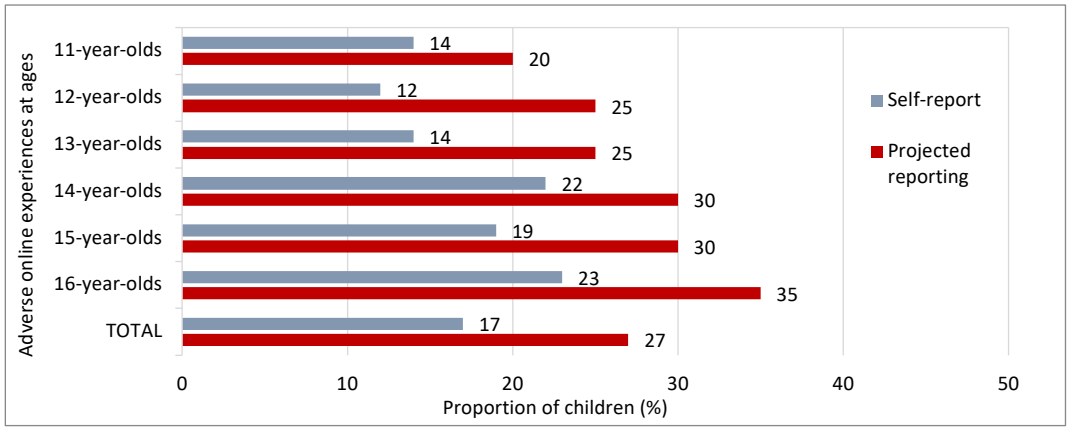
The examination of adverse online experiences in the present study is restricted to the 11–16-year-old subsample, reflecting the age sensitivity of the questions. The likelihood of reporting at least one of the six examined incident types—cyberbullying, exclusion, ghosting, grooming, cyberthreat, and sexting—increases across the 11–12, 13–14, and 15–16 age groups, and the association between age group and reported exposure is statistically significant ($\chi^2(2) = 19.62$, $p < .001$, Cramér's $V = .13$), indicating a small age-related association. At the aggregate level, however, the prevalence of experiencing at least one such incident in the previous year remained essentially stable between the two most recent waves: 18% of 11–16-year-olds reported such an experience in 2020, compared with 17% in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 136), a difference that was not statistically

significant (z = −0.46, p = .649). Thus, while the overall prevalence remained broadly unchanged, substantial age-related variation was evident among 11–16-year-olds.

A particularly noteworthy pattern emerges when personal self-report is compared with vicarious or projected reporting, that is, reports concerning incidents experienced by classmates, friends, or other peers. Whereas 17% of 11–16-year-olds reported having personally experienced at least one of the examined adverse online incidents during the previous year, 27% reported that such an incident had occurred to someone in their immediate social environment within the same period (see Figure 10; Nemzeti Média- és Hírközlési Hatóság, 2025, p. 139). The difference is visible across most age groups and becomes particularly pronounced among older adolescents.

Figure 10

Self-reported and peer-projected adverse online experiences among children aged 11–16 in the past year (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 139), based on the same dataset

The difference between personal and vicarious reporting is methodologically noteworthy. Research on sensitive self-report questions suggests that social desirability, perceived stigma, and reluctance to disclose victimisation may contribute to lower levels of personal reporting (Smahel et al., 2020). The survey sought to reduce this risk by allowing children to complete sensitive questions themselves on the CAPI device without reading their responses aloud. This safeguard is particularly relevant given that parents were present during a substantial proportion of the child interviews. Even under these conditions, personal self-reports yielded the lowest estimate (17%), followed by children's reports concerning their immediate social environment (27%). Parents' responses to a separate third-party question produced a still higher estimate: 31% reported having heard of cyberbullying-related incidents involving other children.

Taken together, this descriptive pattern is compatible with the possibility that some sensitive personal experiences remain undisclosed in direct self-report. It should not, however, be interpreted as a direct estimate of the magnitude of underreporting or of the "true" underlying prevalence. The three measures differ in both reporting source and referent: children report on themselves or on a wider social environment, while parents provide third-party reports concerning other children. The resulting 17%–27%–31% gradient is therefore informative as a reporting pattern rather than as three alternative estimates of the same underlying prevalence.

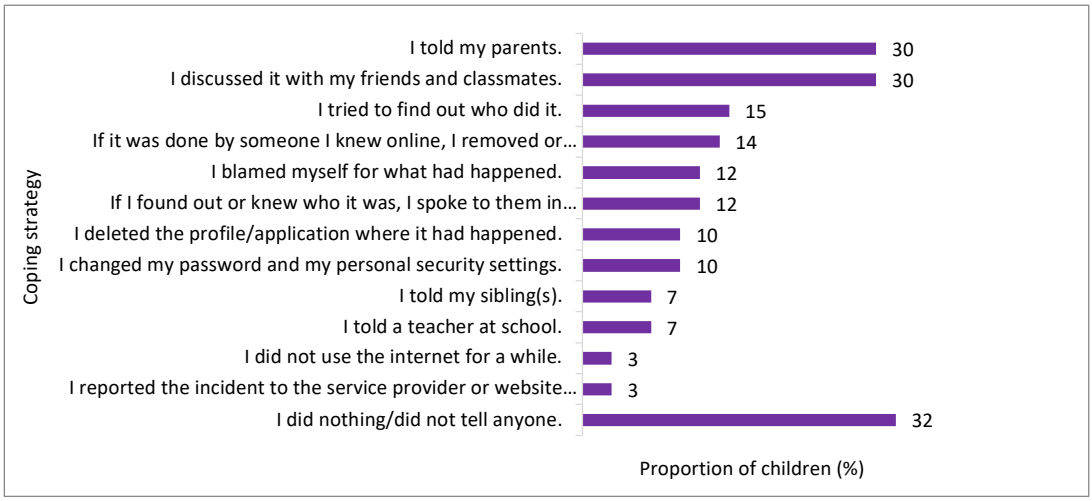
The emotional appraisal of these experiences provides an empirical basis for applying the risk–harm distinction discussed in Section 2.2.3 (Livingstone & Haddon, 2009; Livingstone & Smith, 2014; Livingstone et al., 2016). Across the incident types examined, 72% of affected children reported experiencing the event negatively, a proportion significantly above the 50% reference threshold (Cohen's h = .456). Under the study's operationalisation, these negatively appraised experiences meet the criterion for experienced harm rather than risk exposure alone (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 141). The finding, therefore, shows that negative emotional consequences accompany a substantial majority of reported adverse online incidents. At the same time, the remaining cases demonstrate why exposure to online risk should not automatically be equated with harm. Considering both incident exposure and children's subjective appraisal thus provides a more differentiated account of adverse online experiences than prevalence figures alone.

The next question concerns what children do when such experiences occur. For analytical clarity, their reported coping responses can be descriptively organised into several broad response tendencies (see Figure 11; Nemzeti Média- és Hírközlési Hatóság, 2025, p. 142). A first involves interpersonal support within the child's immediate social environment: among affected children, 30% reported telling their parents, 30% discussing the experience with friends or classmates, and 7% telling a sibling. A second involves formal or institutional help-seeking, which was considerably less frequently reported: 7% turned to a teacher and only 3% used a platform's formal reporting function. These item-level differences show that children report relying more frequently on members of their immediate social environment than on formal support channels. Because the question allowed multiple responses, however, these percentages represent non-mutually-exclusive coping responses and should not be summed to estimate the proportion using interpersonal or institutional support. A further group of responses involves active self-directed coping. Children reported trying to identify

who was responsible for the incident (15%), removing or blocking an online contact (14%), directly confronting the person involved (12%), deleting the profile or application on which the incident occurred (10%), or changing passwords or personal security settings (10%). In contrast, a particularly important response is non-action and non-disclosure: 32% reported doing nothing and telling nobody about what had happened. Although this represents a minority of affected children, it is the single most frequently reported individual response in Figure 11. It therefore identifies a substantial subgroup of children who, if experiencing an adverse online event, do not draw on either interpersonal or formal sources of support.

Figure 11

Coping strategies among 11–16-year-old respondents (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 142), based on the same dataset

Taken together, the coping results reveal a marked contrast between the central position of immediate social relationships in children's reported help-seeking and the limited use of formal support channels. At the same time, the finding that 32% report neither taking action nor disclosing the experience to anyone highlights a substantial gap in the support available—or accessed—following adverse online experiences. Parents occupy a particularly important position in this observed support landscape, alongside peers, but the present descriptive findings do not establish the effectiveness of either source of support. This makes parental disclosure following negative online experiences a particularly salient outcome for the subsequent dyadic analyses; its association with different forms of parental mediation is examined in Section 5.5.8.

5.3 Parents' digital attitudes and online risk perception (RQ3)

This section addresses the third research question (RQ3) by examining two interrelated dimensions of parental orientation towards the digital environment: parents' digital attitudes and self-efficacy, followed by their perceptions of and concerns about online risks to their children. The analysis draws on the parental questionnaire, with the relevant attitude and risk-perception items measured on five-point Likert-type scales (1 = *strongly disagree* to 5 = *strongly agree* for attitude items; 1 = *not at all worried* to 5 = *very worried* for risk items). Although RQ3 primarily focuses on parents' current orientations and concern profiles, where comparable items are available, supplementary cross-wave comparisons with the 2017 and 2020 surveys are used to contextualise the 2025 findings. As the survey waves comprise independent cross-sectional samples, these comparisons describe population-level patterns of change rather than within-parent longitudinal change.

5.3.1 Parents' digital attitudes and self-efficacy

Among parents of children who use the internet at least weekly, the 2025 data indicate an overall positive orientation towards the online environment and considerable trust in their children's ability to use it safely. The highest mean score across the attitude items was recorded for "I trust my child to use the internet safely" ($M = 4.06$; $t(1,886) = 54.17$, $p < .001$, $d = 1.25$), followed by the view that internet use offers more advantages than disadvantages for the child ($M = 3.70$; $t(1,886) = 31.09$, $p < .001$, $d = .716$). Both means were substantially above the scale midpoint, indicating strong endorsement rather than a neutral response tendency. The broader positive orientation towards the internet has remained relatively stable across the three survey waves: the perceived balance of advantages and disadvantages changed little between 2017 ($M = 3.68$), 2020 ($M = 3.68$), and 2025 ($M = 3.70$), while trust in the child's safe internet use remained high despite some fluctuation ($M = 4.21$, 3.99, and 4.06, respectively) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45).

Parents also report moderate confidence in their own capacity to support their children online. The item "I know enough to help my child handle online risks" received a mean score of $M = 3.56$ in 2025, significantly above the scale midpoint ($t(1,906) = 21.12$, $p < .001$). Across waves, the corresponding mean increased from 3.43 in 2017 to 3.65 in 2020 before declining slightly to 3.56 in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45). The 2025 value remained significantly higher than the 2017 baseline, although the difference was

small ($t(1,898) = -2.83$, $p = .005$, $d = .130$), while the 2020–2025 difference was also very small and reached the conventional significance boundary ($t(1,898) = 1.96$, $p = .050$, $d = .090$). The related item "I feel safe online myself" was similarly stable between 2020 ($M = 3.54$) and 2025 ($M = 3.56$) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45). The two 2025 items were rated at very similar levels and did not differ statistically ($t(1,899) = 1.25$, $p = .210$). Taken together, these results point to a broadly stable, moderate-to-positive level of perceived digital confidence rather than a consistent upward trend in parental digital self-efficacy.

Against this relative stability, a clearer cross-wave shift emerges in parents' perceptions of the generational competence gap. In 2025, agreement with the statement "My child knows more about the correct use of the internet than I do" was below the scale midpoint ($M = 2.85$; $t(1,900) = -6.88$, $p < .001$, $d = -.158$), as was agreement that "My child shows me new things on the internet; I learn from them" ($M = 2.90$; $t(1,905) = -4.45$, $p < .001$, $d = -.102$). Both means declined successively across the three survey waves: from 3.30 in 2017 to 2.96 in 2020 and 2.85 in 2025 for perceived child superiority in correct internet use, and from 3.06 to 2.98 and 2.90 for learning new things from the child (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45). The 2017–2025 differences were statistically significant for both items ($t(1,898) = 9.81$, $p < .001$, $d = .450$; and $t(1,898) = 3.49$, $p < .001$, $d = .160$, respectively). These population-level cross-wave patterns indicate that parents in the more recent survey waves were less inclined to attribute superior internet knowledge to their children.

This perceived generational gap is nevertheless strongly age-related. Agreement with both statements increased with the child's age ($r_s = .418$, $p < .001$ for "child knows more"; $r_s = .384$, $p < .001$ for "child shows me new things"), indicating that parents of older children were substantially more likely to perceive their child as digitally more knowledgeable or as a source of new online knowledge. Thus, the perceived competence gap is considerably wider in families with older children than in those with younger children. Because these are cross-sectional associations with child age, however, they should not be interpreted as demonstrating an individual developmental process or an objective difference in parent–child digital competence.

A related indicator further reinforces this pattern of relatively strong parental confidence. The statement "When my child talks to me about internet-related things, I understand little

of it" received the lowest mean across the 2025 attitude items ($M = 2.49$; $t(1{,}904) = -24.73$, $p < .001$, $d = -.567$), declining from $M = 2.63$ in 2020 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45); the cross-wave difference was statistically significant but small ($t(1{,}898) = 3.05$, $p = .002$, $d = .140$). This item was also negatively associated with perceived capacity to help the child manage online risks ($r_s = -.248$, $p < .001$): parents who reported greater difficulty understanding their child's internet-related talk also tended to report lower digital self-efficacy. Together with the declining means on the two child-superiority items, this pattern suggests that parents in 2025 perceive somewhat less distance between their own and their child's digital knowledge than parents did in earlier waves. Importantly, this concerns perceived relative competence and should not be interpreted as evidence that the actual digital competence of parents and children has objectively converged.

No statistically significant differences by child sex were detected in either parental trust in the child's safe internet use ($t(1{,}885) = -0.77$, $p = .439$) or perceived capacity to help the child manage online risks ($t(1{,}906) = -1.93$, $p = .054$). Overall, the findings depict a parental orientation characterised by high trust in children's safe internet use, a persistently positive evaluation of the internet's benefits, broadly stable moderate-to-positive digital self-efficacy, and a narrowing perceived generational competence gap across survey waves. Table 2 summarises the corresponding attitude items across the three survey waves.

Table 2

Parental attitudes toward children's digital media use: mean scores across three survey waves (scale: 1 = strongly disagree, 5 = strongly agree)

Statement	2017	2020	2025
I trust my child to use the internet safely	4.21	3.99	**4.06**
The internet offers more advantages than disadvantages for my child	3.68	3.68	**3.70**
I know enough to help my child handle online risks	3.43	3.65	**3.56**
I feel safe online myself	–	3.54	**3.56**
I consider the internet a dangerous place	–	–	**3.13**
My child shows me new things on the internet; I learn from them	3.06	2.98	**2.90**
My child knows more about the correct use of the internet than I do	3.30	2.96	**2.85**
When my child talks to me about internet-related things, I understand little of it	–	2.63	**2.49**

Note. Items marked "–" were not included in the given survey wave.

Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 45), based on the same dataset

5.3.2 Parents' online risk perception and concerns

A supplementary cross-wave comparison reveals a clear increase in parental concern about online risks across the *Digital Parenting Research* series. The number of risk dimensions included in the questionnaire expanded from eight in 2017 to 18 in 2025, which limits direct temporal comparison to items measured consistently across survey waves. Among the eight risks for which data are available from all three waves, mean concern scores increased between 2017 and 2025 in every case (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 46), with all differences statistically significant (ps < .001) and effect sizes ranging from moderate to large (Cohen's *d*s = .62–.82). The corresponding increases between 2020 and 2025 were smaller but likewise statistically significant across comparable items (ps ≤ .001, *d*s = .18–.28). These population-level cross-wave patterns indicate higher reported parental concern in the more recent survey waves, although they should not be interpreted as within-parent longitudinal change. Table 3 presents the full set of risk dimensions and their mean concern scores across the three survey waves.

Table 3

Parental concern about digital risks to the child: mean scores across three survey waves (scale: 1 = not at all worried, 5 = very worried)

Risk type	2017	2020	2025
Being cyberbullied	2.19	2.79	**3.01**
Downloading viruses	2.38	2.72	**3.00**
Encountering violent content	–	2.77	**2.97**
Receiving hurtful messages directed at themselves	–	–	**2.96**
Being deceived by a fake online profile	–	2.68	**2.95**
Excessive time spent online/on mobile devices	2.27	2.70	**2.94**
Encountering sexual content	–	2.73	**2.93**
Receiving hurtful messages directed at others	–	–	**2.91**
Entering into contact with strangers	2.18	2.68	**2.87**
Receiving unsolicited intimate images	–	2.62	**2.86**
Volume of online advertisements	2.04	2.61	**2.84**
Accepting the friend request of unknown users	–	2.61	**2.84**
Being asked to send intimate images	–	2.60	**2.82**

Risk type	2017	2020	2025
Sharing personal data with strangers	2.08	2.59	**2.78**
Being encouraged to harm themselves	2.00	2.59	**2.77**
Sending hurtful messages to others	–	–	**2.74**
Being defrauded of money	–	2.44	**2.69**
Becoming radicalised	1.82	2.43	**2.64**

Note. Items marked "–" were not included in the given survey wave.
Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 46), based on the same dataset

Despite the cross-wave increase, the absolute levels of concern in 2025 remain relatively moderate. Cyberbullying generated the highest mean level of parental concern (M = 3.01), followed closely by downloading viruses (M = 3.00), while the lowest means were recorded for radicalisation (M = 2.64) and online financial fraud (M = 2.69) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 46). Across all 18 items, mean scores were concentrated within the relatively narrow range of 2.64–3.01. Thus, while parental concern has increased over time, the 2025 results show relatively limited differentiation in the average level of concern attached to different types of online risk.

One of the most notable additional findings concerns the coherence of these risk-specific concern ratings. The 18-item concern composite showed exceptionally high internal consistency (Cronbach's $\alpha = .975$), indicating that parents' responses across different risk types covary very strongly and supporting the use of an aggregate concern measure in subsequent analyses. This pattern is consistent with a broad general tendency towards online-risk concern, although internal consistency alone does not establish that the items form a single latent factor or that parents fail to distinguish conceptually between specific risks. The finding, therefore, points to a strongly interconnected concern profile rather than demonstrating complete risk-specific undifferentiation.

The response distributions reinforce this pattern. Across the 18 risk dimensions, 8–12% of parents reported being very worried and 17–24% rather worried (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 47). Overall, approximately 26–36% expressed some degree of concern about each individual risk, 28–33% selected the middle response category, and 33–47% reported little or no concern. These distributions further indicate that parental concern is broadly spread across the different risk domains rather than concentrated overwhelmingly on a small subset of risks.

Behind this broad concern profile lies a significant but non-linear age-related pattern. Overall parental concern differed significantly by child age group (Kruskal–Wallis $H(4) = 22.43$, $p < .001$). Concern was lowest among parents of 7–8-year-olds ($M = 2.71$) and highest among parents of 11–12-year-olds ($M = 2.99$) and 13–14-year-olds ($M = 2.96$). Post hoc comparisons showed significantly lower concern among parents of 7–8-year-olds than among parents of 11–12- and 13–14-year-olds (both $p < .001$), while no other pairwise differences reached statistical significance. This pattern indicates that concern is particularly elevated around early adolescence rather than increasing monotonically with the child's age. No statistically significant difference in overall concern was detected between parents of boys and girls ($p = .219$).

Taken together with the findings in Section 5.3.1, these results reveal a noteworthy coexistence in parental orientations towards the digital environment. Parents report high trust in their child's ability to use the internet safely ($M = 4.06$), while the more general statement "I consider the internet a dangerous place" received a mean rating of 3.13 in 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 45). Thus, concern about the digital environment can coexist with considerable confidence in one's own child, rather than the two orientations being mutually exclusive.

The associations between these attitudinal dimensions further clarify this pattern. Perceived digital self-efficacy and trust in the child's safe internet use were only very weakly negatively associated with overall concern ($r_s = -.079$, $p < .001$, and $r_s = -.059$, $p < .01$, respectively). By contrast, viewing the internet as a dangerous place showed a considerably stronger positive association with parental concern ($r_s = .317$, $p < .001$). Of these three attitudinal relationships, parents' broader appraisal of the internet as dangerous was therefore most closely associated with elevated concern. These cross-sectional correlations do not establish causal direction, but they indicate that general perceptions of the digital environment are more closely related to the parental concern profile than either perceived digital self-efficacy or trust in the child's ability to navigate the internet safely.

Overall, the findings depict parental risk perception as broadly distributed across different online risks, increasingly pronounced across survey waves, and particularly elevated around early adolescence, while coexisting with relatively high trust in children's safe internet use. This configuration is relevant to the broader literature showing that parental risk perceptions, digital self-efficacy, and child-specific trust are associated with how parents approach

mediation of their children's digital media use (Helsper et al., 2025; Livingstone & Helsper, 2008). Its implications for parental mediation practices are considered in Chapter 6.

5.4 Parental mediation strategies (RQ4)

Building on the parental attitudes and risk perceptions examined in Section 5.3, this section turns from what parents think about the digital environment to what they report doing to mediate their children's digital media use. It addresses the fourth research question (RQ4) by examining the parental mediation strategies employed by Hungarian parents of 7–16-year-olds and changes in their prevalence between 2020 and 2025. The analysis follows the four-dimensional framework discussed in Section 2.5 and operationalises parental mediation as four analytically distinct behavioural categories: restriction, monitoring, active mediation, and technical restriction.

Restriction encompasses rules and limits governing the child's digital activity, including time limits, content restrictions, and rules concerning contact with strangers or the disclosure of personal information. Monitoring refers to direct observation or subsequent checking of the child's online activity, such as reviewing visited websites, downloaded content, installed applications, or social media activity. Active mediation captures communicative and educative engagement, including co-use and discussions about online activities, experiences, and risks. Technical restriction refers to software-based measures used to shape or constrain the child's digital environment, including content filters, screen-time management tools, and access controls. The section first examines each strategy separately, with particular attention to prevalence, age-related patterns, and relevant sociodemographic differences, before comparing cross-wave changes across the four strategies and examining how they combine into broader parental mediation profiles.

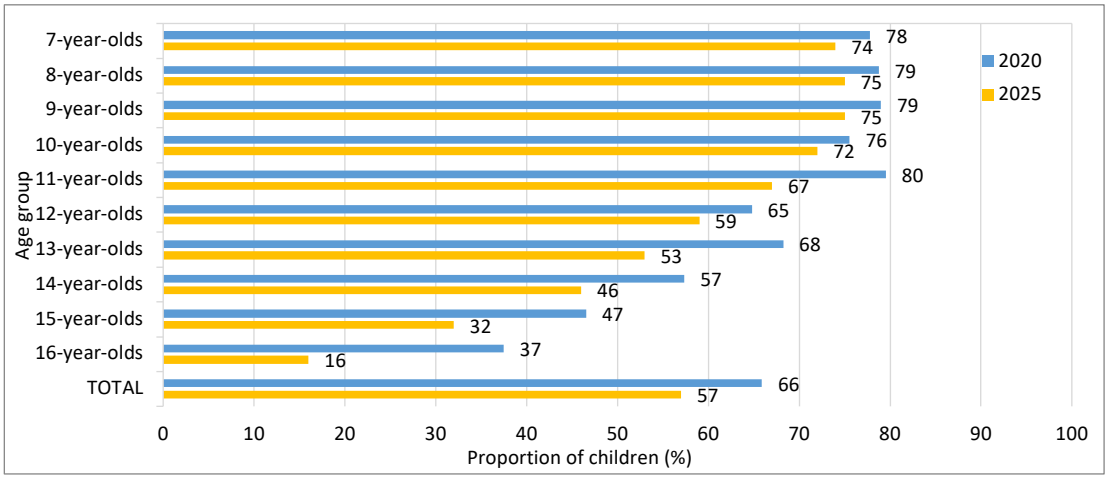
5.4.1 Restriction

The use of restriction in children's digital media use was reported by 57% of parents in 2025, compared with 66% in 2020 (see Figure 12), representing a nine-percentage-point decline between the two survey waves (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 107). Restriction was also strongly differentiated by the child's age. Additional inferential analysis showed a statistically significant and comparatively substantial association between age group and the use of restriction ($\chi^2(4)=267.13$, $p < .001$, Cramér's V = .374). The proportion of parents applying restriction declined from 74.1% among parents of 7–8-year-olds to

72.7% among those of 9–10-year-olds, 62.3% among those of 11–12-year-olds, 49.8% among those of 13–14-year-olds, and 23.9% among parents of 15–16-year-olds. The more detailed single-year distributions presented in Figure 12 show the same pattern, with restriction becoming markedly less prevalent from early adolescence onwards. Taken together, the cross-wave and age-group patterns indicate that explicit parental rule-setting becomes less common as children grow older.

Figure 12

Parental restriction of children's digital media use, by age and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 107), based on the same dataset

The content of these rules shows that restriction covers several dimensions of children's digital activity. In 2025, the most prevalent rules concerned the disclosure of personal information, contact or communication with strangers, sending photos or videos to strangers, daily or evening time limits, the use of paid services, and access to violent, sexual, or age-restricted content, with approximately 48–51% of parents in the analysis base reporting each of these forms of restriction (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 108). Rules requiring parental permission to download applications (39%) or restricting digital media use to situations involving parental supervision (30%) were less common. Thus, where restriction is present, it tends to extend beyond screen-time regulation to encompass content, contact, privacy, and financial aspects of children's digital media use.

The way in which these rules are established also varies across families. Among parents reporting that rules were in place, 46% stated that the parents formulated the rules and subsequently communicated them to the child, 35% reported that the rules were formulated by the parents but discussed in detail with the child, and 19% reported developing them

jointly with the child (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 109). The rules were predominantly child-directed: in 67% of these families they applied only to the child, while in approximately one-third at least some of the rules also applied to the parents. The extension of rules to parents became more common as children grew older, indicating that the personal scope of family media rules differs according to the child's age.

Finally, parents generally perceived these rules as being followed. Among families with rules in place, 54% of parents reported that their child complied with them almost always and a further 36% reported frequent compliance, while 10% described less consistent compliance (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 110). Reported compliance nevertheless declined with the child's age. Overall, the findings show that restriction remains a common and relatively broad parental mediation strategy, but its prevalence decreases substantially across childhood and adolescence, particularly as children move into the older age groups.

5.4.2 Monitoring

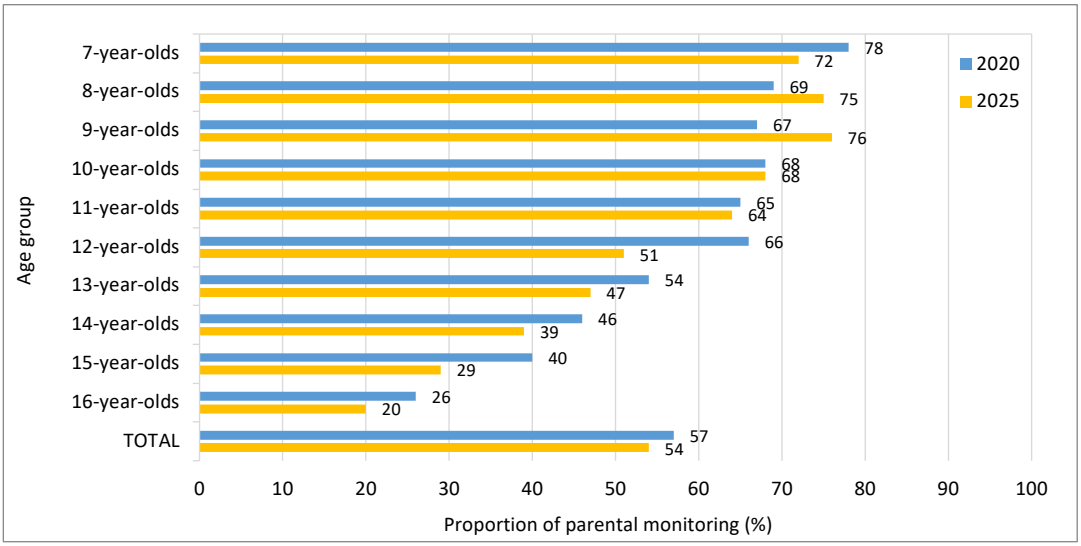
In contrast to restriction, monitoring showed only a small aggregate change between the two survey waves, decreasing from 57% in 2020 to 54% in 2025 (see Figure 13; Nemzeti Média- és Hírközlési Hatóság, 2025, p. 114). Behind this relative stability, however, lies a pronounced age-related pattern. In 2025, monitoring was reported by 72–75% of parents of 7–8-year-olds, compared with only 20–29% of parents of 15–16-year-olds (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 114). The association between child age group and monitoring was statistically significant and substantial ($\chi^2(4) = 238.30$, $p < .001$, Cramér's $V = .354$). As Figure 13 illustrates, monitoring remains relatively common throughout middle childhood but becomes markedly less prevalent from approximately age 12 onwards. Thus, while its overall prevalence changed little between 2020 and 2025, monitoring is strongly differentiated by the child's age.

The composition of monitoring practices also changed modestly between the two waves. Direct physical co-presence—remaining near the child and observing what they are doing—became somewhat less common (from 43% in 2020 to 38% in 2025), while retrospective checking, such as reviewing browsing history or social media activity, gained slightly greater prominence (from 34% and 32% in 2020 to 37% and 33% in 2025) (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 112). Although these item-level changes were limited in

magnitude, together they indicate a modest shift in the balance of monitoring practices from immediate observation towards post-use checking.

Figure 13

Parental monitoring of children's digital media use, by child age and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 114), based on the same dataset

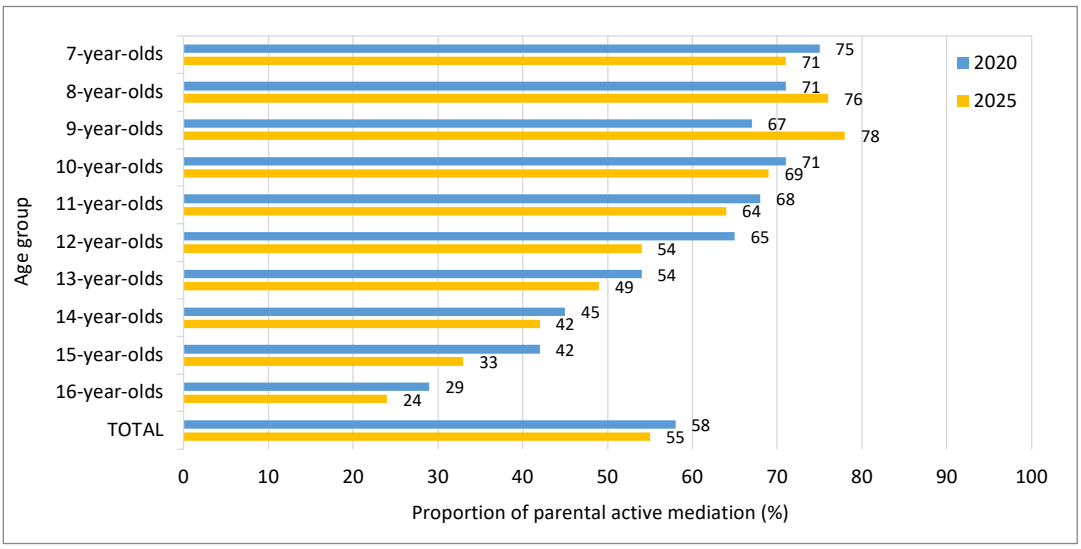
Overall, the findings reveal a contrast between relative stability at the population level and substantial variation across childhood: monitoring remained almost as prevalent in 2025 as in 2020, but its use declined markedly with increasing child age. At the same time, the modest shift from direct observation towards retrospective checking suggests some change not only in how frequently parents monitor, but also in the forms that monitoring takes.

5.4.3 Active mediation

At the aggregate level, the prevalence of active mediation remained broadly stable between the two survey waves: 58% of parents in 2020 and 55% in 2025 reported at least one active-mediation practice (see Figure 14; Nemzeti Média- és Hírközlési Hatóság, 2025, p. 113). Behind this overall stability, however, lies a clear age-related pattern. Active mediation becomes markedly less prevalent as children grow older, with the decline becoming particularly pronounced from around age 12 onwards. The association between child age group and active mediation was statistically significant ($\chi^2(4) = 47.03$, $p < .001$, Cramér's V = .153). Although statistically significant, this association is considerably weaker than the corresponding age associations for restriction and monitoring, indicating that active mediation is less strongly differentiated by child age than these two strategies.

Figure 14

Parental active mediation of children's digital media use, by child age and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 113), based on the same dataset

The frequency and content of family communication provide further insight into how active mediation operates in everyday family life. Compared with other possible topics, the internet and digital media do not occupy a particularly prominent place in parent–child conversations; however, even school-related matters are discussed daily in only about half of families. Only 6% of parents reported talking with their child about the online and digital world on a daily basis, while 41% reported doing so weekly (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 101). When online issues are discussed, the most common focus is on the risks and dangers of internet use. Joint media use shows a similar pattern: daily parent–child co-use was reported by only 13% of children overall and by 18% even among 7–8-year-olds, although weekly co-use was considerably more common (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 115). Taken together, these frequency patterns suggest that communicative and co-use forms of active mediation are more often periodic than embedded as daily routines in family media practice.

Overall, active mediation differs from restriction and monitoring in two respects: its aggregate prevalence changed little between 2020 and 2025, and its association with child age is substantially weaker. Nevertheless, active mediation still becomes progressively less common as children enter adolescence, while the everyday communication indicators show that regular discussion and shared media use are not routine daily practices in most families. This pattern can be interpreted in light of Livingstone and Helsper's (2008) observation that

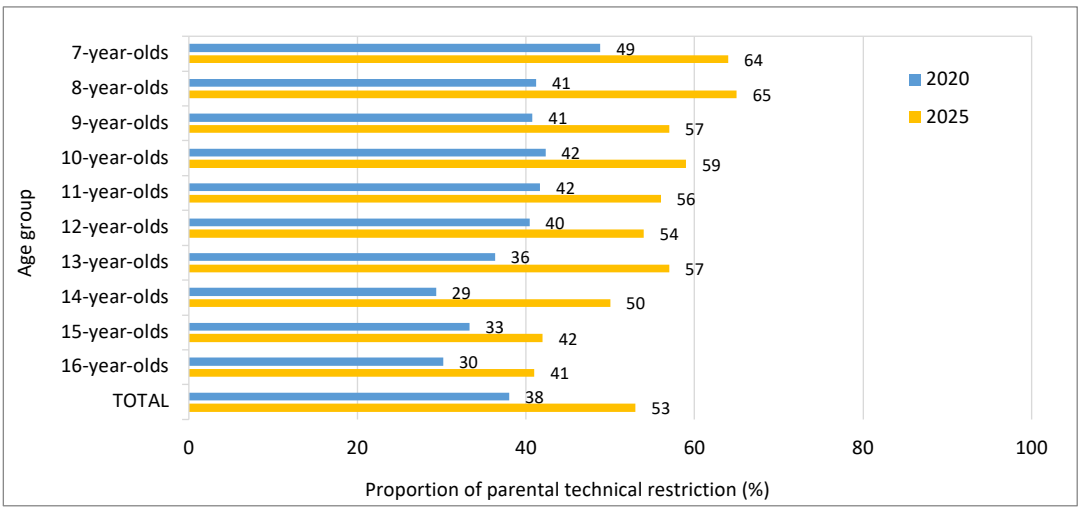
active mediation may be applied selectively rather than continuously, and its implications for children's digital experiences are examined further in Chapters 5.5 and 6.

5.4.4 Technical restriction

The clearest cross-wave change among the four parental mediation strategies occurred in technical restriction (see Figure 15). In 2020, 38% of parents reported using at least one such tool; by 2025, this proportion had risen to 53% (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 116). This 15-percentage-point increase exceeded the magnitude of change observed for any of the other three strategies, making technical restriction the only mediation dimension to show a substantial increase between 2020 and 2025 (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 119). The increase was not confined to a single type of technical intervention: mobile-based location tracking rose from 10% to 22%, while software-based time regulation increased from 8% to 14%, and every technical tool included in the survey became more prevalent over the period (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 118).

Figure 15

Parental technical restriction of children's digital media use, by child age and survey wave (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p.116), based on the same dataset

Despite this broad increase, technical restriction remained associated with child age in 2025, although considerably less strongly than restriction, monitoring, or active mediation. The association between child age group and technical restriction was statistically significant ($\chi^2(4) = 23.88$, $p < .001$, Cramér's V = .111), indicating a small age-related association. Technical restriction was most prevalent among parents of younger children and became progressively less common towards older adolescence. Compared with the much steeper age

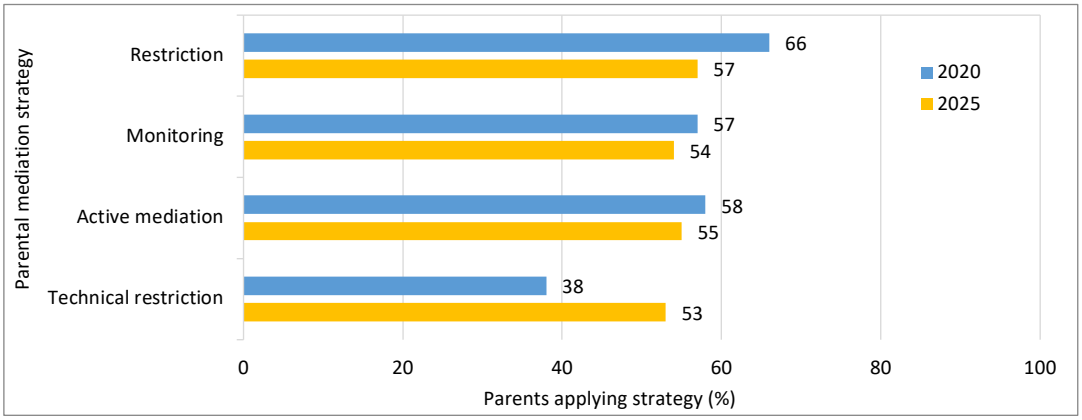
gradients observed for the other mediation strategies, however, technical restriction remained relatively widespread even among parents of older children. Thus, technical restriction differs from the other strategies in two notable respects: it increased substantially between 2020 and 2025, and its use is less strongly differentiated by the child's age.

5.4.5 Parental mediation strategy trends in comparison

Figure 16 brings together the prevalence of the four parental mediation strategies in 2020 and 2025. A clear divergence emerges between the three non-technical, parent-enacted strategies and technical restriction. Restriction declined from 66% to 57%, active mediation from 58% to 55%, and monitoring from 57% to 54%, whereas technical restriction increased markedly from 38% to 53% (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 119). The magnitude of the decline differed across the three non-technical strategies: it was most pronounced for restriction, while the decreases in active mediation and monitoring were more modest, with the latter not reaching statistical significance ($z = 0.96$, $p = .337$). Nevertheless, all three non-technical strategies were more prevalent in 2020 than in 2025, while technical restriction was the only strategy to increase. As a result, the substantial difference that separated technical restriction from the other mediation strategies in 2020 had almost disappeared by 2025, with the prevalence of all four strategies converging within a narrow range of 53–57%. Taken together, these contrasting cross-wave trajectories indicate a marked reconfiguration of the parental mediation repertoire towards a relatively greater role for technical forms of mediation.

Figure 16

Prevalence of different parental mediation strategies (percentage of parents who apply at least one measure within each set of strategies)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 119), based on the same dataset

This contrasting pattern is consistent with a partial shift towards technologically mediated forms of parental control, with non-technical mediation practices becoming less prevalent while technical restriction gained a substantially greater role in the parental mediation repertoire. This development also resonates with the category of technical mediation identified by Livingstone and Helsper (2008). This pattern may indicate that some aspects of parental regulation are increasingly being delegated to technological tools. However, because the survey waves comprise repeated cross-sectional samples, the data do not establish that individual parents replaced non-technical mediation practices with technical ones. What the findings clearly demonstrate is a population-level change in the relative prevalence of the four strategies. Thus, the observed reconfiguration is consistent with a possible substitution dynamic, but does not by itself demonstrate such a process at the individual-family level.

The regression analyses add a further sociodemographic dimension to this pattern. After adjustment for child age group, parental education remained significantly associated with all three parent-enacted mediation strategies. Compared with parents with primary-level education, parents with tertiary education had higher odds of applying restriction (OR = 1.84, 95% CI [1.41, 2.40], $p < .001$), monitoring (OR = 1.61, 95% CI [1.23, 2.10], $p < .001$), and active mediation (OR = 2.18, 95% CI [1.67, 2.84], $p < .001$), with the largest education-related difference observed for active mediation. These results indicate that, alongside the broader cross-wave reconfiguration of parental mediation practices, educational differences remain evident in the use of parent-enacted mediation strategies.

Technical restriction also varied systematically by parental education in a separate bivariate analysis. The proportion of parents reporting the use of at least one technical restriction tool increased from 34.8% among parents with primary-level education to 48.3% among those with vocational education, 54.3% among those with secondary education, and 64.5% among tertiary-educated parents. The association was statistically significant ($\chi^2(3) = 47.51$, $p < .001$, Cramér's V = .160). As this comparison is unadjusted, it should not be interpreted as an education effect independent of child age or other family characteristics.

5.4.6 Parental mediation profiles

The four strategy-specific analyses presented in Sections 5.4.1 through 5.4.5 characterise parents' mediation behaviour along individual dimensions. To support the cross-variable analyses reported under RQ5, the four dichotomised mediation indicators were additionally

combined into a simple three-category composite capturing the breadth of parents' mediation repertoire. This dissertation-specific grouping is distinct from the multivariate parental strategy segmentation reported in the NMHH research report, which identified four characteristic segments in the 2024/2025 wave: passive parents, active mediators, all-rounders, and regulators (Nemzeti Média- és Hírközlési Hatóság, 2025, pp. 121–124). In the composite used here, parents were classified as *passive* if they applied none of the four mediation strategies, as *intermediate* if they applied one, two, or three strategies, and as *all-rounders* if they applied all four strategies simultaneously.

In the 2024/25 analytical base used to construct this mediation profile (N = 1,864), 27.3% of parents were classified as passive, 46.1% as intermediate, and 26.6% as all-rounders. The distribution of the profiles also varied by the child's age: passive profiles were more common among parents of older adolescents, whereas all-rounder profiles were more strongly represented among parents of younger children. This age pattern is consistent with the pronounced age-related differences observed for the individual mediation strategies in Sections 5.4.1–5.4.4 and with the broad age pattern reported in the NMHH segmentation (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 122), although the profile constructions themselves should not be conflated. The dissertation-specific three-category profile is used in the subsequent RQ5 analyses as an exploratory indicator of the co-occurrence of multiple mediation components rather than as a latent parental type or a measure of developmental change.

5.5 Parental mediation strategies and children's digital outcomes (RQ5)

Sections 5.1 through 5.4 have described, respectively, children's digital media lives, their digital attitudes and online risk experiences, parents' digital attitudes and concern profiles, and the parental mediation strategies employed in Hungarian families, drawing primarily on descriptive statistics and cross-wave trend comparisons (RQ1–RQ4). Together, these sections have established the structural landscape of digital childhood and digital parenting in Hungary, documenting earlier and increasingly personalised digital engagement among children alongside a population-level reconfiguration of parental mediation between 2020 and 2025: restriction and active mediation became less prevalent, monitoring showed a small non-significant decline, and technical restriction became more common. What they have not yet examined, however, is whether and to what degree the different mediation strategies parents employ are associated with selected child-related digital outcomes and behaviours.

This is precisely where the research design of the *Digital Parenting Research* series offers a distinctive analytical opportunity. Unlike studies that rely on either parental or child reports in isolation, the present dataset is built on matched parent–child dyads: each child respondent is paired with the parent most informed about their digital life, both of whom are interviewed during the same household visit. This dyadic structure allows examination of associations between parental mediation strategies and selected child-related outcomes within corresponding parent–child pairs, rather than at the aggregate or ecological level, a capacity that single-respondent studies cannot replicate.

The present section addresses RQ5 by drawing on this dyadic design to examine how the four parental mediation strategies—active mediation, monitoring, restriction, and technical restriction—are associated with a range of children's digital outcomes. These include age at first personal device ownership and first social media registration, self-reported leisure screen time, PIU-consistent indicators, adverse online experiences (online risk exposure, experienced harm, and online rights violations), use of anonymous chat platforms, usual responses to online friend requests from strangers, and disclosure to parents following negative online experiences.

The analyses reported in this section are exploratory, unadjusted bivariate analyses of associations within matched parent–child dyads. Because child age is strongly associated both with parental mediation and with several of the examined child outcomes, the observed relationships may partly reflect differences in age composition. The mediation strategies also frequently co-occur; consequently, strategy-specific associations should not be interpreted as independent effects. The results identify patterns of association within matched parent–child dyads but do not establish causal or protective effects.

5.5.1 Parental mediation and children's age of first digital device ownership

Analysis of the relationship between parents' mediation strategies and children's age at first personal device ownership showed statistically significant bivariate associations for all four parental mediation strategies (see Table 4). In each case, children of parents who apply a given strategy receive their first device at a younger age than children of parents who do not: the strongest association is found for the parental restrictive strategy (9.01 vs. 9.84 years), followed by monitoring (9.06 vs. 9.72 years), technical restriction (9.05 vs. 9.63 years), and active mediation (9.14 vs. 9.67 years).

Table 4

Association between parental mediation strategies and the age of children's first personal device

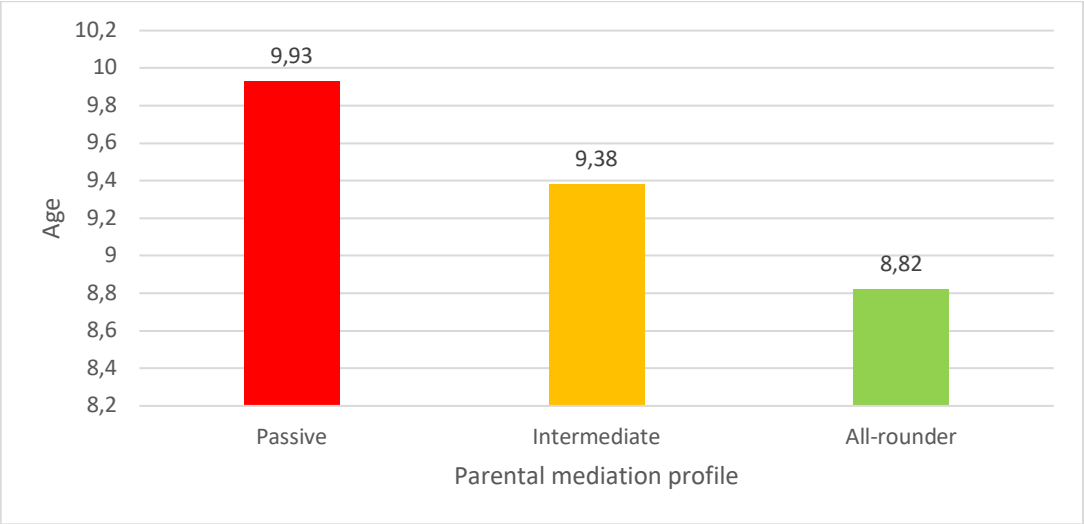
Parental mediation strategy	Strategy not applied (mean, years)	Strategy applied (mean, years)	F	p	η^2
Active mediation	9.67	9.14	25.61	<.001	.018
Monitoring	9.72	9.06	40.62	<.001	.028
Restriction	9.84	9.01	63.00	<.001	.042
Technical restriction	9.63	9.05	29.18	<.001	.020

Source: Author

This pattern is further confirmed by the overall strategy profile, which shows a significant and strongly linear trend ($F(2, 1433) = 32.33$, $p < .001$; $\eta^2 = .043$, $R = -.197$): children of passive parents—i.e., those who do not apply any parental mediation strategy—receive their first device latest (9.93 years on average), followed by the intermediate group (9.38 years)—i.e., parents who reported applying one to three of the four mediation strategies—, while children of all-rounder parents—who apply all mediation strategies simultaneously—receive their first device earliest, at an average age of 8.82 years (see Figure 17).

Figure 17

Association between parental mediation profiles and the age of children's first personal device



Source: Author

This finding may appear paradoxical: broader current parental mediation is associated with earlier rather than later first device ownership. One possible interpretation is that, in some families, earlier digital entry occurs within a broader pattern of active parental engagement

rather than in the absence of parental involvement. Parents who later report more extensive mediation may also be those who approach children's digital entry more deliberately and accompany it with discussion, monitoring, and rule-setting. Such a configuration would be consistent with a scaffolded onboarding interpretation (developed further in Section 6.5), in which relatively early access and parental guidance co-occur. However, because parental mediation was measured at the time of the survey rather than at the time of first device acquisition, the data cannot establish that these mediation practices were already in place when the child first received a device, nor that parental mediation itself led to earlier device ownership.

Part of this apparently paradoxical pattern may reflect a cohort effect. Passive parents are disproportionately represented among parents of adolescents and therefore tend to have older children (mean child age: 13.1 years), whose first device acquisition occurred around 2021, when the national mean age of first device ownership was approximately 10 years and thus higher than in 2025. When children's acquisition ages are compared with the estimated national norm prevailing at the time, the cross-profile difference is substantially reduced. Children in the passive profile deviate only marginally from their period-specific norm (+0.07 years), indicating that they did not receive their first devices unusually late relative to their cohort. Nevertheless, children in the all-rounder profile received their first device 0.56 years earlier than the estimated norm for their own period. This residual difference suggests that cohort composition accounts for part, but not all, of the observed cross-profile association between current mediation profile and age at first device ownership. However, because parental mediation was measured at the time of the survey rather than at the time of device acquisition, the analysis cannot establish the temporal direction of the association or determine which mediation practices were in place when the child first received a device.

A structural selection boundary further qualifies this analysis. The device-entry analysis is based on children included in the relevant digital-media-use analytical sample, meaning that families in which children remain outside regular digital-media use are not represented in the same way. Such non-participation may reflect parental gatekeeping, but it may also arise from other child-, family-, or access-related factors that are not observed in the present analysis. This selection boundary may therefore affect the estimated association between current parental mediation and age at first device ownership, but its direction and magnitude cannot be determined from the present data.

Overall, these findings indicate statistically significant bivariate associations between current parental mediation strategies and children's age at first device ownership. At the same time, the effect sizes, while statistically significant, are modest (η^2 = .018–.042). This indicates that the age of first device acquisition is likely shaped by a range of additional factors beyond mediation strategy alone, including socioeconomic status, school entry age, the presence of siblings, and broader parental attitudes toward digital technology.

5.5.2 Parental mediation and children's age of first social media registration

When children's age at first social media registration was compared across current parental mediation strategies, the results closely mirrored those observed for age at first device ownership (see Table 5). Children whose parents reported active mediation registered on their first social media platform at a significantly younger age than those whose parents did not report this strategy (10.67 vs. 11.10 years). Children whose parents reported monitoring also registered at a significantly younger age (10.56 vs. 11.16 years). The largest strategy-specific difference was observed for restriction: children whose parents reported this strategy registered at an average age of 10.41 years, compared with 11.38 years among those whose parents did not, a difference of almost one year. Technical restriction was likewise associated with a younger mean age at first registration, although the association was considerably weaker (10.67 vs. 11.01 years). All four parental mediation strategies showed statistically significant bivariate associations with children's age at first social media registration, although the magnitude of these associations varied considerably (see Table 5).

Table 5

Association between parental mediation strategies and the age of children's first social media registration

Strategy	Strategy not applied (mean, years)	Strategy applied (mean, years)	F	p	η^2
Active mediation	11.10	10.67	10.32	.001	.012
Monitoring	11.16	10.56	20.66	<.001	.024
Restriction	11.38	10.41	54.67	<.001	.061
Technical restriction	11.01	10.67	5.53	.019	.007

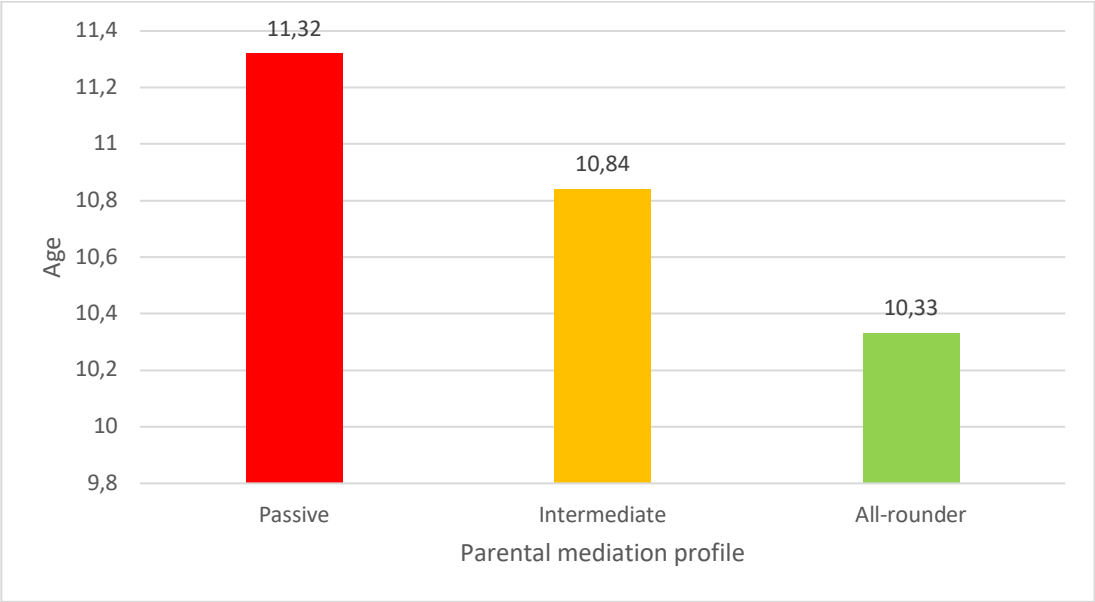
Source: Author

A corresponding pattern emerged at the level of the composite mediation profile. Children of passive parents reported the latest mean age at first social media registration (11.32 years), followed by those in the intermediate group (10.84 years), while children of all-rounder

parents reported the earliest registration age (10.33 years). The overall difference was statistically significant, $F(2, 835) = 14.56$, $p < .001$, $\eta^2 = .034$, and the linear trend was also significant, $F_{lin} = 26.10$, $p < .001$. Thus, the broader the current parental mediation repertoire, the younger the children's age at first social media registration. This profile-level pattern mirrors that observed for age at first device ownership (see Figure 18).

Figure 18

Association between parental mediation profiles and the age of children's first social media registration



Source: Author

This apparently counterintuitive pattern admits several possible interpretations. One possibility is that, in some families, relatively early social-media entry co-occurs with a broader environment of active parental guidance, monitoring, and rule-setting rather than with the absence of parental involvement. In this sense, the observed pattern does not fit a simple gatekeeping expectation in which broader parental mediation would be associated with delayed platform entry; instead, it is compatible with a more deliberate and scaffolded form of digital entry. At the same time, the strategy-specific effect sizes range from small to moderate ($\eta^2 = .007–.061$), indicating that current parental mediation is associated with only a limited proportion of the variation in children's age at first social media registration and that platform entry is likely to reflect a broader set of individual, family, peer, and contextual factors not examined in the present analysis. Moreover, because mediation was measured at the time of the survey rather than at the time of first registration, the data do not establish which mediation practices were in place when children first entered social media, nor

whether parents actively facilitated that entry. This pattern foreshadows the scaffolded-onboarding interpretation developed further in Section 6.5.

Two additional considerations further qualify this interpretation. First, cohort composition may partly account for the observed cross-profile differences. Passive parents tend to have older children, whose first social media registrations occurred several years earlier, when mean registration ages were higher at the population level. A cohort adjustment comparable to that conducted for device ownership in Section 5.5.1 might therefore alter the observed gap between passive and all-rounder profiles; however, no corresponding norm-adjusted analysis was performed for age at first social media registration, and the magnitude of any such cohort contribution cannot be determined from the present analysis. Second, the registration-age outcome is necessarily observed only among children for whom an age of first registration is available. Children who have not yet registered on a social media platform—and thus families in which platform entry has been delayed or has not occurred—do not contribute an observed registration age. This selection boundary may affect the estimated association between current parental mediation and age at first social-media registration, but its direction and magnitude cannot be established from the present data. Taken together, these considerations mean that the observed differences should be interpreted as unadjusted associations between current parental mediation and children's registration age among children with an observed age of first registration, rather than as independent effects of parental mediation on the timing of social-media entry.

5.5.3 Parental mediation and children's screen time

Turning to children's self-reported internet-related leisure screen time, the bivariate comparisons by parental mediation status (see Tables 6 and 7) showed statistically significant differences for three of the four strategies examined. Children whose parents reported active mediation had lower mean screen time than those whose parents did not: 112 versus 132 minutes on weekdays and 195 versus 224 minutes at weekends. Children whose parents reported monitoring also had lower mean screen time: 111 versus 132 minutes on weekdays and 192 versus 225 minutes at weekends. The largest differences were observed for restriction: 109 versus 138 minutes on weekdays and 190 versus 232 minutes at weekends, making this the strategy with the largest bivariate association with screen time among the four strategies examined. Technical restriction was associated with lower weekday screen time (113 versus 126 minutes), but not with a statistically significant

difference in weekend screen time (199 versus 213 minutes). In both comparisons, the effect sizes were very small (η^2<.01), indicating that the association with technical restriction was weak and inconsistent across the two time contexts.

Table 6

Association between parental mediation strategies and children's self-reported leisure screen time on weekdays

Strategy	Strategy not applied – weekday (min)	Strategy applied – weekday (min)	F (weekday)	p	η^2
Active mediation	132	112	11.86	<.001	.014
Monitoring	132	111	13.30	<.001	.015
Restriction	138	109	26.57	<.001	.030
Technical restriction	126	113	4.84	.028	.006

Source: Author

Table 7

Association between parental mediation strategies and children's self-reported leisure screen time on weekends

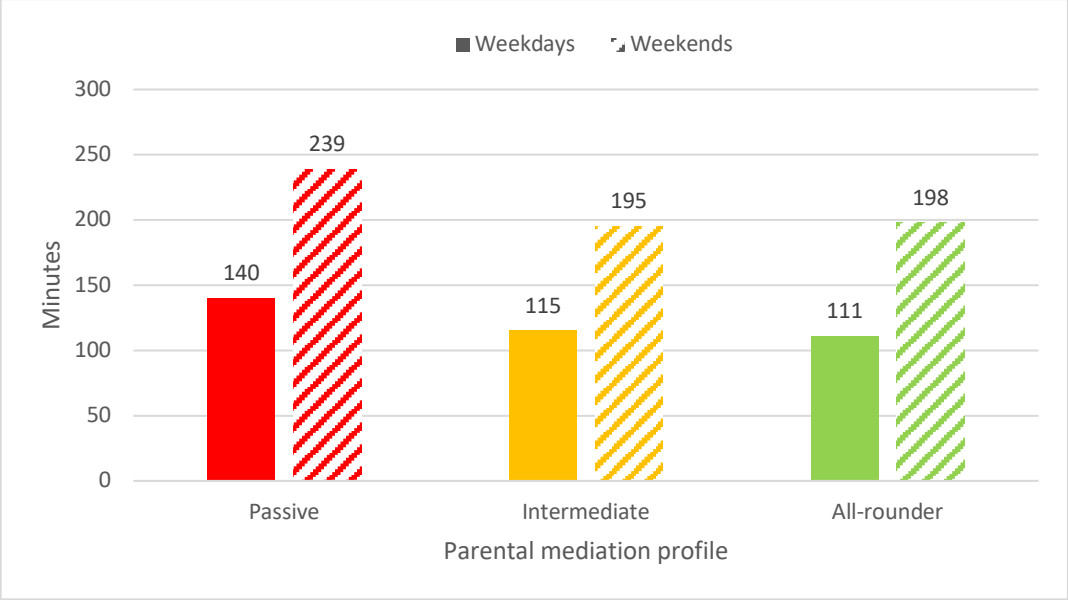
Strategy	Strategy not applied – weekend (min)	Strategy applied – weekend (min)	F (weekend)	p	η^2
Active mediation	224	195	11.46	<.001	.013
Monitoring	225	192	14.68	<.001	.017
Restriction	232	190	23.46	<.001	.027
Technical restriction	213	199	2.26	.133	.003

Source: Author

As Figure 19 shows, children of passive parents reported the highest mean weekday screen time (140 minutes), followed by the intermediate group (115 minutes) and children of all-rounder parents (111 minutes) ($F(2,854)=9.47$, $p<.001$; $\eta^2 = .022$). A similar overall group pattern was observed at weekends: children of passive parents again reported the highest mean screen time (239 minutes), while the intermediate and all-rounder groups reported substantially lower and broadly similar values (195 and 198 minutes, respectively) ($F(2,841)=10.04$, $p<.001$; $\eta^2 = .023$).

Figure 19

Association between parental mediation profiles and children's self-reported leisure screen time on weekdays and weekends



Source: Author

In sum, the three parent-enacted strategies (active mediation, monitoring, and restriction) showed statistically significant bivariate associations with lower self-reported leisure screen time on both weekdays and weekends (all $p<.001$). Restriction showed the largest associations among the four strategies examined, although the effect sizes remained small ($\eta^2=.030$ on weekdays and $\eta^2=.027$ at weekends): children whose parents reported restriction had mean screen times 29 minutes lower on weekdays (109 vs. 138 minutes) and 42 minutes lower at weekends (190 vs. 232 minutes) than children whose parents did not report this strategy. At the profile level, children of passive parents reported the highest mean screen time in both temporal contexts, while the intermediate and all-rounder groups showed lower and broadly similar values, particularly at weekends. Technical restriction showed a statistically significant but very small association with weekday screen time ($\eta^2=.006$) and no statistically significant association with weekend screen time. Given the strong age gradients in both children's screen time and parental mediation, part of these unadjusted bivariate associations may reflect differences in the age composition of the mediation groups and should not be interpreted as independent or causal effects.

5.5.4 Parental mediation and children's problematic internet use

Of the four parental mediation strategies examined, three show a statistically significant bivariate association with children's problematic internet use. With regard to the first parental mediation strategy (see Table 8), children of actively mediating parents are significantly less likely to fall into the "very frequent" (8.0% vs. 14.6%) or "frequent" (14.0% vs. 19.9%) problematic-use categories and are more likely to fall into the "never" category (52.5% vs. 43.0%). The association is highly significant ($\chi^2(3) = 34.19$, $p<.001$), with a small-to-moderate effect size (Cramér's V = .143). The distribution of percentages follows a monotonic pattern across categories, rather than reflecting a purely categorical difference.

Table 8

Children's problematic internet use by parental active mediation (% within group)

Problematic use level	Parent does not actively mediate	Parent actively mediates	Total sample
Very frequent	14.6%	8.0%	10.9%
Frequent	19.9%	14.0%	16.6%
Rare	22.5%	25.6%	24.2%
Never	43.0%	52.5%	48.3%

Source: Author

Examining the second parental mediation strategy, children of parents who regularly monitor their child's online activity (see Table 9) also show significantly lower levels of problematic internet use ("very frequent": 8.4% vs. 13.7%; "never": 52.1% vs. 43.8%), although the effect size is somewhat smaller than for active mediation ($\chi^2(3) = 24.998$, $p<.001$, Cramér's V = .122).

Table 9

Children's problematic internet use by parental monitoring (% within group)

Problematic use level	Parent does not monitor	Parent monitors	Total sample
Very frequent	13.7%	8.4%	10.9%
Frequent	19.5%	14.1%	16.6%
Rare	22.9%	25.4%	24.2%
Never	43.8%	52.1%	48.3%

Source: Author

Concerning the third strategy, children of parents who apply restriction (see Table 10) likewise show significantly lower levels of problematic internet use ("very frequent": 8.7% vs. 13.8%; "never": 50.7% vs. 45.3%), with a highly significant association (χ^2 (3) = 35.014, p<.001, Cramér's V = .145).

Table 10

Children's problematic internet use by parental restriction (% within group)

Problematic use level	Parent does not restrict	Parent restricts	Total sample
Very frequent	13.8%	8.7%	10.9%
Frequent	20.8%	13.3%	16.6%
Rare	20.1%	27.3%	24.2%
Never	45.3%	50.7%	48.4%

Source: Author

Fourthly, by contrast, the technically restrictive strategy (see Table 11) shows no statistically significant association with problematic internet-use levels ($\chi^2(3)$ = 3.670, p = .299, Cramér's V = .047). Thus, no statistically reliable bivariate association between technical restriction and problematic internet use was detected in the present analysis.

Table 11

Children's problematic internet use by parental technical restriction (% within group)

Problematic use level	Parent does not apply technical restriction	Parent applies technical restriction	Total sample
Very frequent	10.7%	11.1%	10.9%
Frequent	17.0%	15.8%	16.5%
Rare	22.8%	26.6%	24.3%
Never	49.5%	46.5%	48.3%

Source: Author

In sum, the highest rate of very frequent problematic internet use is observed among children of passive parents (12.4%), while the lowest is found among children of parents who employ all four mediation strategies (7.8%). Active mediation, monitoring, and restriction each show statistically significant bivariate associations with lower levels of problematic internet use (Cramér's V = .143, .122, and .145, respectively; all p < .001), and the lowest rates of very

frequent problematic use are observed among children whose parents apply the broadest mediation repertoire. By contrast, no statistically significant bivariate association is detected between technical restriction and problematic internet-use level (p = .299). The pattern is broadly consistent with previous research reporting favourable associations between relational forms of parental mediation and problematic media use, including findings linking higher-quality parent–child communication to lower problematic media use (Lin et al., 2025). However, the present unadjusted cross-sectional analyses do not establish that these mediation strategies independently reduce problematic internet use, nor do they demonstrate that technical restriction is ineffective. Given the strong age gradient in both problematic internet use and parental mediation, part of the observed associations may also reflect differences in the age composition of the mediation groups. The cross-sectional design also leaves the direction of the association unresolved, as parental mediation may both shape and respond to children's patterns of digital use.

5.5.5 Parental mediation and children's adverse online experiences

The analysis in this subsection examines the association between four parental mediation strategies and three dichotomous indicators of children's negative online experiences: *exposure to online risk* (27.4%), *actual online harm* experienced (16.6%), and *online rights violations* such as data theft or fraud (9.6%). The analytical subsample is restricted to internet-using children aged 11–16 (N = 1,136–1,137, weighted). Among the four strategies, active mediation is the only one to show a statistically significant association with all three outcomes (see Table 12). Children of actively mediating parents reported significantly lower prevalence of online risk exposure (22.8% vs. 31.0%), actual harm (13.9% vs. 18.8), and online rights violations (7.3% vs. 11.4%).

Table 12

Adverse online experiences by parental active mediation (% within group)

Experience	Parent does not actively mediate	Parent actively mediates	$\chi^2(1)$	p	Cramér's V	OR [95% CI]
Online risk exposure	31.0%	22.8%	9.47	.002	.091	0.658 [0.503, 0.860]
Actual online harm	18.8%	13.9%	5.00	.025	.066	0.694 [0.503, 0.957]
Online rights violation	11.4%	7.3%	5.27	.022	.068	0.617 [0.408, 0.935]

Source: Author

Monitoring is significantly associated with online risk exposure (23.1% vs. 30.4%) and actual harm (13.8% vs. 18.7%), but not with rights violations (7.8% vs. 10.8%) (see Table 13). The confidence interval for the odds ratio on rights violations crosses 1.0 (OR = 0.701, 95% CI [0.462–1.061]), indicating that the observed association is not statistically significant.

Table 13

Adverse online experiences by parental monitoring (% within group)

Experience	Parent does not monitor	Parent monitors	$\chi^2(1)$	p	Cramér's V	OR [95% CI]
Online risk exposure	30.4%	23.1%	7.45	.006	.081	0.687 [0.524, 0.900]
Actual online harm	18.7%	13.8%	4.78	.029	.065	0.695 [0.502, 0.964]
Online rights violation	10.8%	7.8%	2.84	.092	.050	0.701 [0.462, 1.061]

Source: Author

By contrast, restriction and technical restriction (see Tables 14 and 15) show no statistically significant bivariate association with any of the three outcomes (all $p > .163$). The unadjusted odds ratios for restriction are close to 1.0 across all outcomes (OR = 0.903, 0.822, and 0.841, respectively), and the percentage differences between groups are small. Similarly, children of parents who use technical tools report very similar rates of online risk, harm, and rights violations compared to children whose parents do not use such tools. Thus, no statistically reliable bivariate association between either restriction or technical restriction and the three adverse-online-experience indicators was detected in the present analysis.

Table 14

Adverse online experiences by parental restriction (% within group)

Experience	Parent does not restrict	Parent restricts	$\chi^2(1)$	p	Cramér's V	OR [95% CI]
Online risk exposure	28.3%	26.3%	0.58	.447	.023	0.903 [0.695, 1.174]
Actual online harm	17.8%	15.1%	1.47	.226	.036	0.822 [0.599, 1.129]
Online rights violation	10.2%	8.7%	0.72	.399	.025	0.841 [0.563, 1.257]

Source: Author

Table 15

Adverse online experiences by parental technical restriction (% within group)

Experience	Parent does not apply technical restriction	Parent applies technical restriction	$\chi^2(1)$	p	Cramér's V	OR [95% CI]
Online risk exposure	27.7%	26.8%	0.12	.727	.010	0.952 [0.724, 1.253]
Actual online harm	16.4%	16.8%	0.02	.893	.004	1.023 [0.737, 1.418]
Online rights violation	8.7%	11.3%	1.94	.163	.041	1.331[0.890, 1.990]

Source: Author

At the profile level, children of all-rounder parents reported the lowest prevalence across all three adverse-online-experience indicators. For online risk exposure and actual harm, the descriptive pattern decreased from passive through intermediate to all-rounder profiles; for rights violations, however, the intermediate group showed a slightly higher prevalence than the passive group. None of the overall three-group comparisons reached statistical significance ($\chi^2(2) = 2.50–4.17$, all $p \geq .124$). Taken together, active mediation showed the most consistent favourable pattern across the three adverse-online-experience indicators, with statistically significant bivariate associations with lower reported prevalence of online risk exposure, actual harm, and rights violations. Monitoring was also significantly associated with lower reported risk exposure and actual harm, but not with rights violations. By contrast, no statistically significant bivariate associations were detected for restriction or technical restriction. The observed effect sizes were small, and the present unadjusted cross-sectional analyses do not establish independent or protective effects. Given the significant age gradient in online risk exposure and the marked age-related differences in several parental mediation strategies, part of these bivariate associations may reflect differences in the age composition of the mediation groups. Directionality also remains unresolved: more intensive online activity may coincide with both greater exposure to adverse experiences and greater parental mediation, while parental mediation may also be adopted or intensified in response to previous negative experiences.

5.5.6 Parental mediation and children's use of anonymous chat platforms

The association between parental mediation strategies and children's use of anonymous social media or chat platforms accessible without registration was examined using a binary outcome (yes/no). "Don't know/no answer" responses, which accounted for less than 0.5%

of valid responses, were treated as missing. Reported use of anonymous chat platforms was significantly lower among children whose parents reported active mediation than among those whose parents did not (25.0% vs. 30.1%). A similarly small association was observed for monitoring: reported use was 24.8% among children whose parents monitored their online activity and 30.1% among those whose parents did not. Restriction was also associated with slightly lower reported use of anonymous chat platforms (25.4% vs. 29.8%). By contrast, no statistically significant association was detected for technical restriction: reported use was 28.6% among children whose parents used technical restriction and 26.5% among those whose parents did not (see Table 16).

Table 16

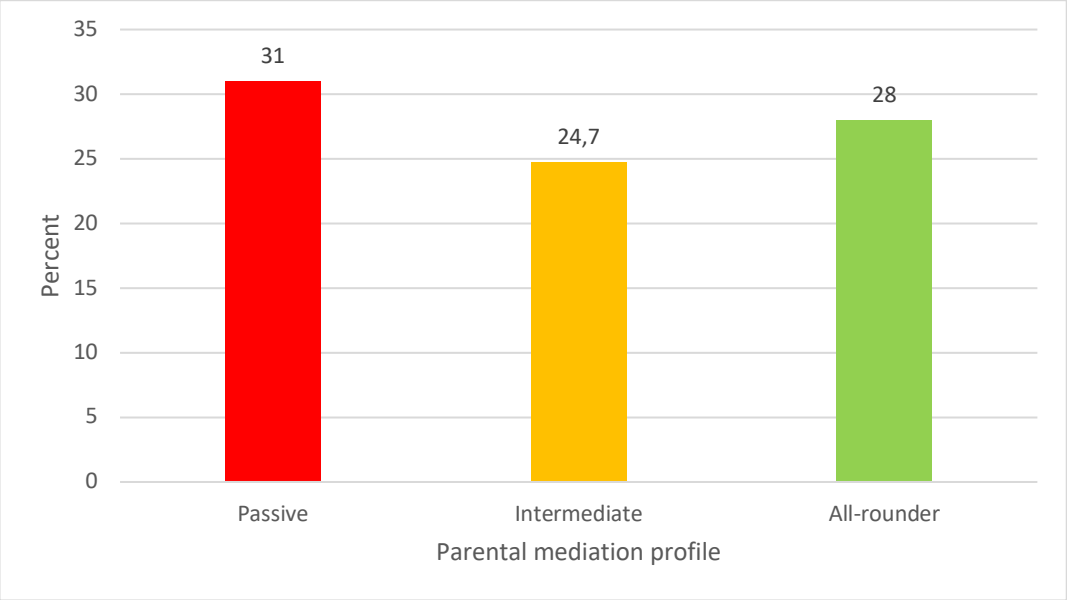
Association between parental mediation strategies and children's use of anonymous chat platforms (% within group)

Strategy	Strategy not applied	Strategy applied	$\chi^2(1)$	p	ϕ	OR [95% CI]
Active mediation	30.1%	25.0%	6.03	.014	.057	0.774 [0.630, 0.950]
Monitoring	30.1%	24.8%	6.67	.010	.060	0.764 [0.622, 0.937]
Restriction	29.8%	25.4%	4.49	.034	.049	0.801 [0.652, 0.984]
Technical restriction	26.5%	28.6%	0.97	.324	.023	1.111 [0.902, 1.368]

Source: Author

Figure 20

Association between parental mediation profiles and children's use of anonymous chat platforms



Source: Author

Reported anonymous-platform use was highest among children of passive parents (31.0%), lowest in the intermediate group (24.7%), and slightly higher again among children of all-rounder parents (28.0%) (see Figure 20). The overall association between mediation profile and anonymous-platform use was statistically significant but very small ($\chi^2(2) = 6.60$, $p = .037$, Cramér's V = .060). The pattern was not monotonic across the three profiles.

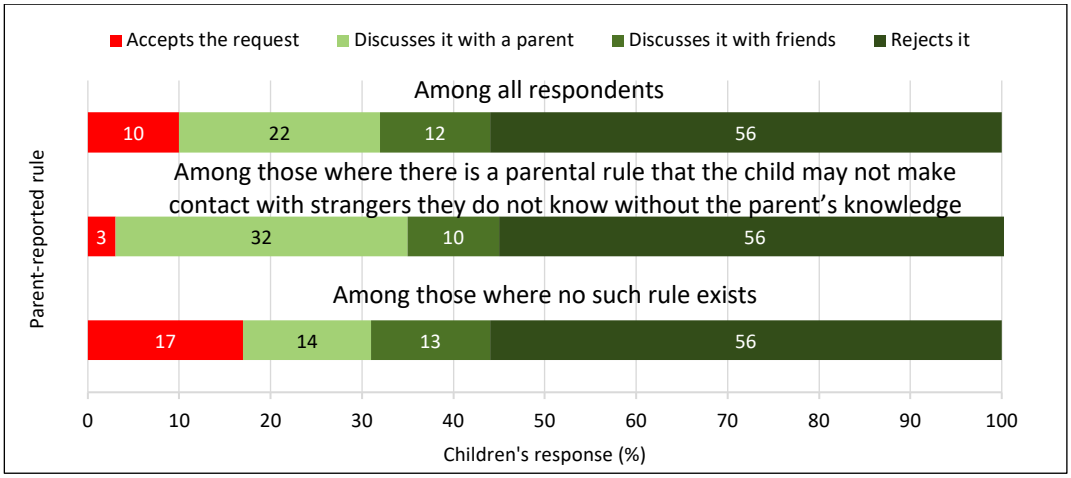
In sum, active mediation, monitoring, and restriction each showed statistically significant but very small bivariate associations with lower reported use of anonymous chat platforms, whereas no significant association was detected for technical restriction. Given the strong age gradient in anonymous-platform use and the age-related decline in several parental mediation strategies, some of these associations may reflect differences in the age composition of the mediation groups. The present unadjusted cross-sectional analyses, therefore, do not establish independent or causal effects of parental mediation on anonymous-platform use.

5.5.7 Parental mediation and children's responses to online friend requests from strangers

The next matched parent–child analysis examined whether the presence of a specific parent-reported rule concerning online contact with strangers was associated with children's self-reported usual responses to friend requests from strangers on social networking sites. Children were asked what they usually do when a person they do not know and have never met in person contacts them and sends a friend request. As Figure 21 shows, 56% of social-media-using children reported that they usually reject such requests immediately, 22% consult a parent, 12% discuss them with friends, and 10% usually accept the request. Among children for whom no such parent-reported rule was present, 14% reported that they usually consult a parent, while 17% reported that they usually accept such requests. By contrast, among children whose parent reported a rule prohibiting online contact with strangers without the parent's knowledge, 32% reported usually consulting a parent, and only 3% reported usually accepting such requests (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 81).

Figure 21

Children's response when approached on a social networking site by someone they do not know and have never met in person, by the presence of a parent-reported rule concerning contact with strangers (%)



Source: Author's adaptation of Nemzeti Média- és Hírközlési Hatóság (2025, p. 81), based on the same dataset

Building on these previously published descriptive distributions, a dissertation-specific secondary analysis tested whether the parent-reported rule was statistically associated with the four-category distribution of children's self-reported usual responses. The weighted cross-tabulation showed a statistically significant association ($\chi^2(3) = 84.16$, $p < .001$, Cramér's V = .295). In a binary contrast focusing specifically on acceptance of the request, the unadjusted odds of reporting that they usually accept a stranger's friend request were 7.66 times higher among children for whom no such parent-reported rule was present than among those whose parent reported the rule (OR = 7.66, 95% CI [4.05, 14.48], $p < .001$).

Taken together, these findings indicate a clear bivariate association between this specific parent-reported restriction rule and children's self-reported usual responses in the corresponding contact-risk situation. Children whose parent reported the rule were less likely to report routinely accepting stranger requests and more likely to report consulting a parent. Because the analysis is cross-sectional and unadjusted, however, it does not establish that the rule caused these response differences; the observed association may also reflect broader family communication and parental involvement, child characteristics, prior online experiences, or other unmeasured factors.

5.5.8 Parental mediation and children's disclosure to parents after negative online experiences

The present subsection examines the association between parental mediation strategies and children's disclosure of negative online experiences to their parents. The binary outcome

indicates whether the child reported the incident to a parent, and the analysis is restricted to children who had experienced at least one negative online event (N = 311–312, weighted). The overall parental disclosure rate in this analytical subsample was 29.6%. As Table 17 shows, all four parental mediation strategies are significantly associated with parental disclosure, with effect sizes ranging from Cramér's V = .198 to .306. The parental disclosure rate was substantially higher among children whose parents reported active mediation (47.0% vs. 19.4%). The association is similarly strong for monitoring (48.6% vs. 19.3%) and for restriction (43.7% vs. 18.8%). Technical restriction was also significantly associated with parental disclosure: 42.1% of children whose parents reported using technical tools had disclosed the negative experience to a parent, compared with 23.0% among children whose parents did not. This finding is noteworthy because technical restriction showed no statistically significant bivariate association with several other outcomes examined in RQ5, including problematic internet use and adverse online experiences. One possible interpretation is that the use of technical tools may serve as a marker of broader parental engagement in children's digital lives, rather than operating in isolation from other forms of mediation. However, because the present analyses do not model the co-occurrence of mediation strategies, this interpretation remains tentative.

Table 17

Rate of parental disclosure after negative online experiences by parental mediation strategy (% of children who told their parents)

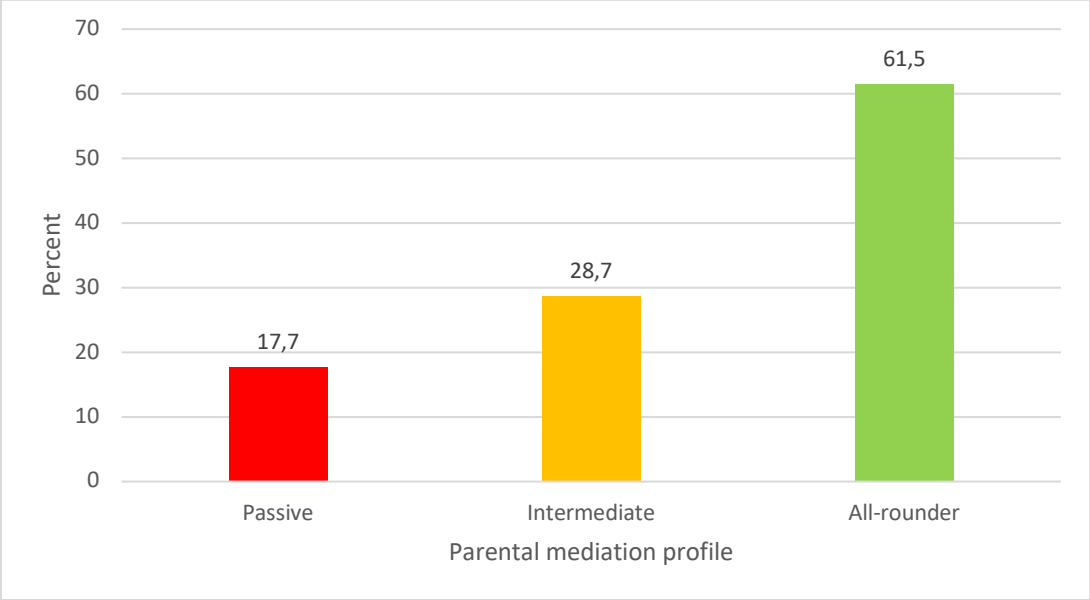
Strategy	Strategy not applied	Strategy applied	$\chi^2(1)$	p	Cramér's V	OR [95% CI]
Active mediation	19.4%	47.0%	26.44	<.001	.292	3.68 [2.21, 6.13]
Monitoring	19.3%	48.6%	29.21	<.001	.306	3.96 [2.37, 6.61]
Restriction	18.8%	43.7%	22.84	<.001	.271	3.36 [2.02, 5.60]
Technical restriction	23.0%	42.1%	12.19	<.001	.198	2.42 [1.47, 4.01]

Source: Author

The association between the overall mediation profile and parental disclosure was also statistically significant and comparatively pronounced ($\chi^2(2) = 33.74$, $p < .001$, Cramér's V = .329). Parental disclosure increased monotonically across the three mediation-profile categories, from 17.7% among children of parents in the passive profile to 28.7% in the intermediate group and 61.5% in the all-rounder group (see Figure 22).

Figure 22

Association between parental mediation profiles and children's parental disclosure after negative online experiences



Source: Author

Taken together, these findings indicate consistent positive bivariate associations between parental mediation and children's disclosure to parents following a negative online experience, with the most pronounced association observed for the composite mediation profile. The Cramér's V values observed for parental disclosure (.198–.329) are larger than those obtained for several of the other categorical outcomes examined in RQ5. This pattern is compatible with the possibility that parental mediation may be particularly relevant to maintaining a parent–child communication channel through which negative online experiences can be disclosed, rather than primarily preventing exposure to online risk. This interpretation is consistent with the broader literature on the role of relational mediation in children's coping and resilience in digital environments and is developed further in Section 6.7. However, the present analyses do not test this relational mechanism directly, and comparisons of effect sizes across different outcomes and analytical subsamples should be interpreted cautiously.

These associations apply specifically to the subsample of children reporting at least one negative online experience and are unadjusted for potentially relevant differences in child age, incident type or severity, and other family characteristics. They should therefore not be interpreted as independent or causal effects of parental mediation on disclosure. The temporal direction may also operate in both ways: an established mediation environment

may facilitate disclosure, while disclosure of a previous negative experience may itself prompt parents to increase their subsequent mediation.

5.6 Summary of findings

In summary, regarding RQ1, the findings document substantial changes in Hungarian children's digital media lives between 2017 and 2025. The household media environment has become increasingly dominated by connected and personal devices, with mobile phones (88%), smart televisions (72%), and laptops (60%) constituting the three most frequently used device categories in 2025. The average age of first personal mobile phone acquisition declined from 10.17 years in 2017 to 9.39 years in 2025, and 7% of children had received their first personal digital device already between the ages of 4 and 6. Internet use is widespread across the child population and close to universal among older adolescents: 84% of 7–16-year-olds and 97% of 15–16-year-olds reported using the internet at least weekly. Weekend leisure screen time increased from 182 minutes in 2020 to 208 minutes in 2025, with a particularly pronounced increase among 9–10-year-olds. The average age of first social media registration declined from 11.57 years in 2017 to 10.89 years in 2025, and 31% of 7–12-year-olds reported having an active social media profile despite the 13-year minimum age applied by most major platforms. TikTok use among children with registered profiles increased from 48% to 72% between 2020 and 2025. Across these indicators, older children generally reported greater internet use, screen time, social media engagement, and platform diversity. Taken together, the findings describe an increasingly personal, portable, and continuously connected digital environment in which a growing share of children's media use takes place on devices that are less directly observable to parents.

Regarding RQ2, the 2025 data show that children's attitudes toward the digital environment are predominantly positive, while their judgements of online information raise concerns about critical source evaluation: even social media, which received the lowest credibility assessment among the sources examined, was regarded as mostly truthful by 68% of respondents. The composite indicator of problematic internet use showed a pronounced age gradient, increasing from 38% among 7–8-year-olds to 66% among 15–16-year-olds. A supplementary cross-wave comparison also showed an increase in this indicator from 45% in 2020 to 52% in 2025. Among 11–16-year-olds, 17% reported personally experiencing at least one of the examined adverse online incidents during the previous year, compared with 27% reporting such an incident in their immediate social environment. This discrepancy is

consistent with possible underreporting of personal experiences, although it does not by itself establish the true prevalence of such incidents. Among children reporting an adverse online experience, 72% evaluated the experience negatively. At the same time, 32% reported taking no action and disclosing the incident to nobody, while 30% reported turning to a parent for support; institutional forms of help-seeking were considerably less common. These findings point to a substantial subgroup of children who face negative online experiences without seeking interpersonal or institutional support.

Regarding RQ3, Hungarian parents generally report positive attitudes toward digital media and considerable confidence in their children's online competence. In 2025, trust in the child's online competence averaged M = 4.06 and perceived benefits of the internet M = 3.70, whereas parents' perceived capacity to support their child in managing online risks averaged M = 3.56. Available cross-wave comparisons indicate that this latter measure did not increase between 2020 and 2025 (M = 3.65 vs. 3.56). Parents also became progressively less likely to agree that their child knows more about the internet than they do, with the mean declining from 3.30 in 2017 to 2.96 in 2020 and 2.85 in 2025. This change reflects a narrowing perceived generational competence gap, but should not be interpreted as evidence of an objective convergence in parents' and children's digital competence. Across the eight online-risk items measured consistently in all three survey waves, parental concern increased between 2017 and 2025 in every case, while the smaller increases observed between 2020 and 2025 were likewise statistically significant across the comparable items. At the same time, concern was broadly distributed rather than strongly differentiated across risk types, with parents who expressed concern about one type of risk tending to report concern about others as well. Overall, the findings depict a combination of generally positive attitudes toward digital media, moderate perceived capacity to manage online risks, and a broad rather than strongly differentiated concern profile.

Regarding RQ4, the prevalence of parental mediation strategies changed unevenly between 2020 and 2025. Restriction declined from 66% to 57%, whereas monitoring decreased more modestly from 57% to 54%, a difference that was not statistically significant ($z = 0.96$, $p = .337$), and active mediation declined slightly from 58% to 55%. Technical restriction showed the clearest change in the opposite direction, increasing from 38% to 53%, with every technical tool included in the survey becoming more prevalent. All four mediation strategies were associated with child age, although the age gradient was substantially weaker for technical restriction than for restriction and monitoring. The non-technical strategies were

markedly less prevalent among parents of older children, with particularly pronounced age-group differences around early adolescence. In the dissertation-specific mediation-profile composite used for RQ5, 27.3% of parents were classified as passive, 46.1% as intermediate, and 26.6% as all-rounders. Passive profiles were considerably more common among parents of older adolescents, whereas all-rounder profiles were more strongly represented among parents of younger children.

Finally, regarding RQ5, the exploratory, predominantly unadjusted cross-variable analyses show that parental mediation strategies are associated with children's digital outcomes, but that the pattern varies substantially across outcome domains. Active mediation, monitoring, and restriction were each significantly associated with lower screen time and lower levels of problematic internet use, whereas technical restriction showed only a very small association with weekday screen time and no significant association with problematic internet use. Active mediation, monitoring, and restriction also showed statistically significant but very small associations with lower reported use of anonymous chat platforms, while technical restriction did not. For adverse online experiences, significant associations were more limited: active mediation was associated with all three examined indicators and monitoring with some of them, whereas restriction and technical restriction showed no statistically significant associations. Across these outcomes, the non-technical mediation strategies therefore showed more consistent favourable bivariate associations than technical restriction, although none of these strategy-specific relationships should be interpreted as independent or causal effects.

A different pattern emerged for the timing of digital entry. All four current mediation strategies were significantly associated with younger ages of first personal-device ownership and first social media registration. Children of all-rounder parents reported the earliest digital entry, while those of passive parents reported the latest. These associations are qualified by cohort composition, the measurement of entry age, and the fact that current mediation practices were measured after the reported entry events; they therefore do not establish that mediation itself caused earlier access. In the friend-request analysis, the presence of a specific parent-reported rule concerning online contact with strangers was associated with more cautious child-reported usual responses: 3% of children whose parent reported such a rule said that they usually accepted strangers' friend requests, compared with 17% of children for whom no such parent-reported rule was present; 32% versus 14%, respectively, reported usually consulting a parent.

The most pronounced categorical association in this analytical block concerned children's disclosure to parents following a negative online experience. All four mediation strategies were significantly associated with parental disclosure, and the association was particularly pronounced at the level of the composite mediation profile: disclosure increased from 17.7% among children of passive parents to 28.7% in the intermediate group and 61.5% among children of all-rounder parents (Cramér's V = .329). This pattern suggests that parental mediation is particularly closely associated with the communicative context in which children respond to negative online experiences. However, this analysis was restricted to children reporting at least one negative online experience and remained unadjusted for child age, incident characteristics, and other potentially relevant factors. The findings should therefore be interpreted as bivariate associations rather than as evidence of independent protective or causal effects.

6. DISCUSSION

Building on the empirical findings presented in Chapter 5, this chapter interprets the main patterns in relation to the international literature on children's digital media use and parental mediation. The discussion is organised around seven thematic strands that bring together findings across the five research questions, examine their convergence with or divergence from international evidence, and develop the broader interpretive implications of the Hungarian findings.

6.1 Earlier digital entry and the personalisation of children's media access

The findings presented in Section 5.1 point to a marked shift towards earlier and increasingly personalised digital access among Hungarian children. Among children who currently had a personal mobile phone, the mean age of first mobile-phone acquisition declined from 10.17 years in 2017 to 9.39 years in 2025. Current ownership patterns reinforce this picture: in 2025, 61% of 9–10-year-olds and 83% of 11–12-year-olds had a personal mobile phone, and among children who currently had one, 96% had a smartphone and 57% had a mobile data subscription, enabling internet access without reliance on household Wi-Fi. This pattern is consistent with international evidence of progressively earlier access to personal connected devices. In a study of 642 parents in the Basque Country, Fernandez et al. (2025) identified a clear tendency towards earlier smartphone provision, while Gerosa et al. (2024), examining Italian adolescents, likewise documented earlier smartphone access and reported associations between younger age at acquisition and lower language and mathematics proficiency, lower digital competence, less creative use of digital media, higher problematic smartphone use, and wider gender and socioeconomic disparities. Taken together, these studies place the Hungarian trend within a broader international shift towards earlier personal connectivity, while also indicating that the developmental significance of age at first access needs to be considered in conjunction with the conditions in which that access occurs.

The Hungarian pattern also closely reflects the historical transformation of the domestic media environment described in Section 2.1.1. Earlier forms of parental media regulation operated in an environment dominated by shared devices in communal spaces, where children's media use remained relatively visible to parents; the subsequent movement

towards bedroom-based, personalised and mobile media has progressively reduced opportunities for incidental parental observation (Livingstone, 2007a, 2007b; Smahel et al., 2020). The present findings indicate a further consolidation of this transition: personal internet-enabled mobile devices, frequently combined with mobile data access, make children's connectivity less dependent on shared household infrastructure and less directly observable to parents. Rather than removing the possibility of parental mediation, this reconfiguration changes the conditions under which monitoring, co-use, rule-setting and dialogue can be practised, consistent with Livingstone and Blum-Ross's (2020) account of digital parenting as an ongoing negotiation of children's autonomy and parental responsibility within an increasingly individualised media environment.

A parallel pattern is evident in children's entry into social media environments. Among children who currently had a registered social media profile, the mean age of first registration declined from 11.57 years in 2017 to 10.89 years in 2025. At the population level, almost one-third (31%) of 7–12-year-olds already had an active social media profile in 2025, including 54% of 11–12-year-olds, despite the 13-year minimum age commonly applied by major platforms. Moreover, among children with a social media profile, the proportion reporting that they had provided non-genuine personal information increased from 23% in 2020 to 35% in 2025. These patterns closely correspond to the international evidence reviewed in Section 2.1.3. EU Kids Online similarly documents substantial under-age social media participation across Europe and found no clear relationship between nationally defined digital ages of consent and the prevalence of such participation (Smahel et al., 2020), while recent US evidence indicates that social media use is already widespread among 8–12-year-olds and that caregivers frequently regard existing age-verification mechanisms as easy to circumvent (Munzer et al., 2026). Recent synthetic work has accordingly characterised early social media adoption in late childhood as a structural feature of contemporary digital childhood rather than a marginal exception (Tan et al., 2024). The Hungarian findings, therefore, add population-level evidence from a Central and Eastern European setting to a broader pattern in which formal age thresholds and children's actual platform participation are substantially misaligned.

This early entry is occurring within a rapidly changing platform ecology. Among children with registered social media profiles, TikTok use increased from 48% in 2020 to 72% in 2025. Sarwatay et al. (2022) illustrate how TikTok can serve as a space for children's self-presentation and creative expression as they negotiate parental restrictions, highlighting that

participation on the platform entails both opportunities and new forms of parental mediation. More broadly, contemporary social media environments expose users to algorithmically curated streams of content that differ markedly from both traditional broadcast media and earlier forms of social networking (Livingstone & Smith, 2014; Smahel et al., 2020). Importantly, however, the present study does not directly establish whether children are critically prepared to navigate these environments. As reviewed in Section 2.2.1, international evidence consistently distinguishes children's relatively early operational fluency with digital devices and platforms from the more slowly developing and unevenly distributed critical competences required to evaluate information, recognise commercial and manipulative intent, understand algorithmic processes, and manage privacy (Livingstone & Smith, 2014; Smahel et al., 2020; Tan et al., 2024). Earlier access and platform familiarity should therefore not be interpreted as evidence of equivalent critical media literacy or developmental readiness.

Earlier and more personalised digital access is accompanied by changes in the intensity of children's digital engagement, although the temporal pattern is not uniform. Weekday leisure screen time remained broadly stable between 2020 and 2025, whereas weekend leisure screen time increased substantially, from 182 to 208 minutes per day, with the largest increase—45 minutes—observed among 9–10-year-olds. This latter pattern is consistent with international evidence of increasing digital engagement (Borges et al., 2025; Liu et al., 2024) and with the broader European trends documented by Smahel et al. (2020). At the same time, the literature reviewed in Section 2.1.2 cautions against treating aggregate screen duration as a sufficient indicator of children's digital well-being. Contemporary approaches increasingly distinguish the content, context, purpose and interactivity of screen use rather than relying on duration alone (Munzer et al., 2026), while meta-analytic evidence showing benefits of adult–child co-use further demonstrates that the relational context of media engagement can matter alongside the amount of time spent with screens (Taylor et al., 2024). The screen-time findings in the present study are therefore best understood as one dimension of a broader transformation in children's digital lives rather than as an outcome that is inherently beneficial or harmful in itself.

Children's screen engagement also needs to be situated within the media practices of the household as a whole. Parents' own weekend leisure screen time increased from 123 minutes in 2020 to 159 minutes in 2025, and the matched parent–child data revealed moderate positive correlations between parental and child leisure screen time on both

weekdays and weekends. These associations remained broadly similar across the age groups examined. This pattern is compatible with the literature on parental modelling and shared family media routines. Morawska et al. (2025) identify parental media behaviour as an important correlate of adolescents' media practices, while Sarwatay et al. (2021) describe the "navigation confusion" that may arise when parents impose limits on children's device use while modelling intensive use themselves. Longitudinal evidence from Holmgren et al. (2024), in which higher maternal social media use preceded higher levels of problematic media use among children two years later, provides further evidence consistent with a possible modelling pathway. However, the present cross-sectional correlations cannot establish such a mechanism or its direction: parents and children may influence one another, and shared household routines or other family characteristics may contribute to both. The broadly similar correlations across age groups nevertheless suggest that family-level media practices may remain relevant beyond early childhood rather than becoming negligible as children enter adolescence. Accordingly, efforts to address children's excessive screen engagement may benefit from considering the household media environment and parental practices alongside children's behaviour itself.

Taken together, these findings describe a digital ecology in which children gain personal connected devices and enter social media environments at increasingly early ages, while weekend digital engagement has intensified and access has become increasingly mobile, individualised and less directly observable to parents. At the same time, children's media use remains embedded in shared household practices, as indicated by the covariation between parental and child screen time. This combination reinforces the socioecological perspective developed in the literature review: children's digital participation is shaped not by device access alone, but by the interaction of technological affordances, family practices, developmental conditions and the wider platform environment. This is particularly relevant in a Central and Eastern European context, where previous research has noted that the rapid expansion of children's digital connectivity has not always been accompanied by an equivalent development of parental support and mediation (Smahel et al., 2020; Stašová, 2015). The following section examines whether a comparable tension is visible in the age-related patterning of parental mediation in Hungary.

6.2 Age-related differences in parental mediation and the early adolescent protection gap

The data reveal pronounced age-related differences in the three parent-enacted mediation strategies. Restriction was reported by 74% of parents of 7-year-olds but by only 16% of parents of 16-year-olds; monitoring showed a corresponding difference from 72% to 20%, and active mediation from 71% to 24%. Technical restriction was also less prevalent among parents of older children, but its age gradient was considerably weaker and it remained relatively widespread into later adolescence. Thus, the cross-sectional pattern does not demonstrate that individual parents progressively withdraw mediation as their own children grow older, but it does show that direct parent-enacted forms of mediation are markedly less prevalent among parents of older than younger children.

This pattern is broadly consistent with the international literature reviewed in Section 2.5.7, which documents lower levels of several forms of parental mediation among older children and adolescents (Coyne et al., 2017; Lafton et al., 2022). Particularly relevant from a Central and Eastern European perspective, Dedkova and Mýlek (2023), in a study of Czech adolescents aged 11–17, similarly found lower levels of both active and restrictive mediation at older ages. Importantly, however, such patterns should not automatically be interpreted as parental disengagement. They may partly reflect developmentally appropriate adaptation to adolescents' increasing autonomy and self-regulatory capacity, and international evidence indicates that age-related patterns vary across mediation strategies rather than following a uniform trajectory of parental withdrawal (Dedkova & Mýlek, 2023; Tan et al., 2024). Direct supervision and control may become less feasible or appropriate as adolescents assert greater autonomy, while more dialogic and autonomy-supportive forms of guidance may remain relevant (Beyens et al., 2025). The central issue is therefore not whether parental mediation should remain unchanged across childhood, but whether it adapts in ways that remain responsive to children's changing developmental capacities and digital environments.

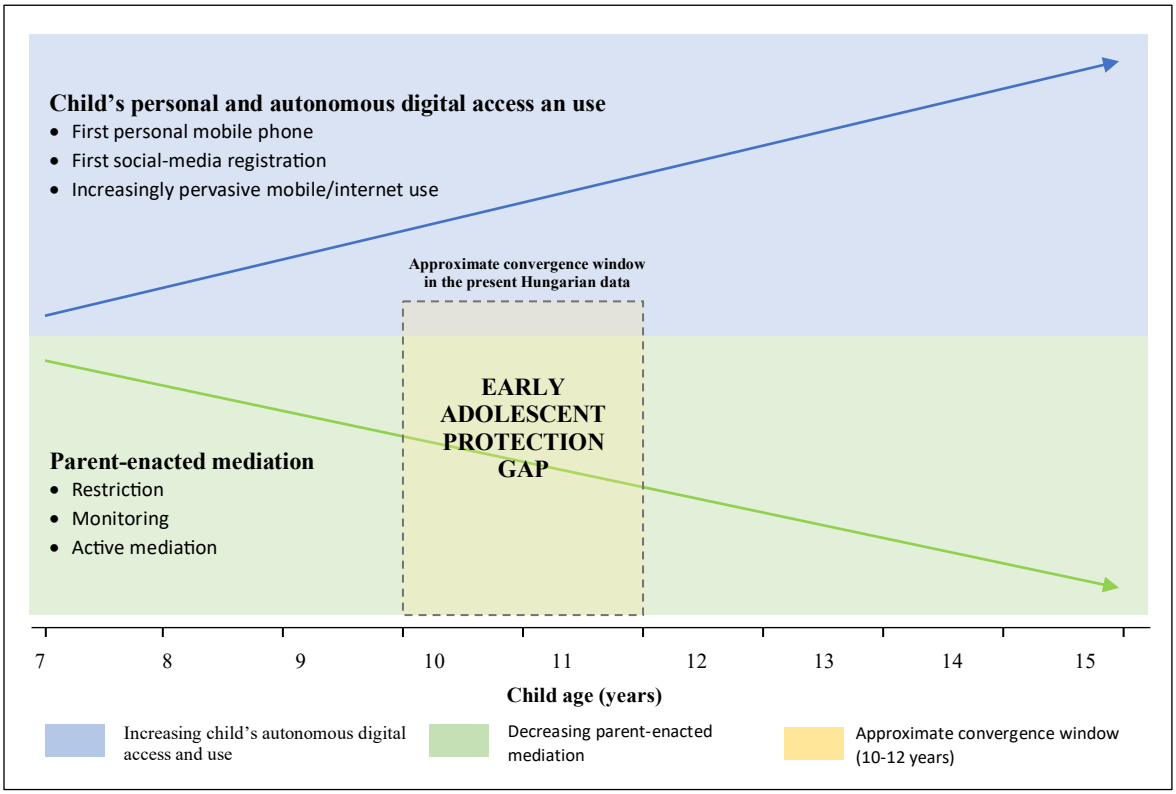
When these age-related differences in parental mediation are considered alongside the findings on children's digital entry and participation, a particularly important convergence becomes visible around the transition from late childhood to early adolescence. In the present Hungarian data, this convergence is most clearly visible at approximately ages 10–12. Among children who currently had a personal mobile phone, the mean age of first personal mobile-phone acquisition was 9.39 years in 2025, while among those who

currently had a registered social-media profile, the corresponding mean age of first registration was 10.89 years. By ages 11–12, personal mobile-phone and regular internet use had become widespread, and more than half of children already had a registered social-media profile. At the same time, the age-specific patterns show a marked reduction in the prevalence of parental restriction, monitoring, and active mediation across the years surrounding this transition, followed by further decreases at older ages. The present data therefore do not establish an exact developmental threshold, but they indicate an age window in which the expansion of personal and increasingly autonomous digital participation overlaps particularly clearly with lower levels of direct parental involvement.

The *early adolescent protection gap* is conceptualised here as an age-linked mismatch, most clearly visible around the transition from late childhood to early adolescence—approximately ages 10–12 in the present Hungarian data—in which children's digital access and use are increasingly personal, mobile, and autonomous, while parent-enacted mediation strategies (restriction, monitoring, and active mediation) are progressively less prevalent across successive age groups. In the present data, personal mobile-phone acquisition and first registration on social media represent the clearest markers of this expanding digital autonomy, alongside increasingly pervasive internet and mobile-media use. Here, protection refers not to a demonstrated causal effect of parental mediation, but to the layer of direct parental guidance, supervision, rule-setting, and communication available to accompany children's increasingly independent digital participation. The gap denotes the relative opening between these age-linked patterns: greater access to and autonomy within increasingly private and less directly observable online environments coincide with a lower prevalence of these forms of direct parent-enacted mediation. Figure 23 visualises this age-linked configuration and the approximate convergence window identified in the present Hungarian data.

Figure 23

The early adolescent protection gap as a proposed theoretical construct



Source: Author's own elaboration based on the findings of the present dissertation

Note: The figure synthesises age-related patterns observed in the present Hungarian data. The highlighted 10–12-year period represents an approximate convergence window rather than a fixed developmental threshold. The figure visualises the empirical configuration underlying the proposed concept and does not imply a causal relationship between increasing digital autonomy and lower prevalence of parent-enacted mediation. The arrows represent schematic directional age-related patterns and should not be interpreted as fitted linear trends, effect-size estimates, or within-person developmental trajectories.

International developmental evidence suggests that this convergence may be particularly consequential because it occurs during a sensitive period of socio-emotional development characterised by ongoing identity formation, increasing needs for autonomy, heightened peer orientation and sensitivity to social feedback, and still-maturing self-regulatory and cognitive-control capacities (Odgers & Jensen, 2020; Vannucci et al., 2020; Munzer et al., 2026). Social-media environments may make some of these developmental dynamics particularly salient by intensifying opportunities for peer evaluation, social comparison, and exposure to curated forms of self-presentation, with potential implications for adolescents' self-perception and emotional well-being. These effects are neither uniform nor inherently negative: higher-level evidence stresses substantial individual and contextual variation in how digital and social-media experiences relate to adolescent well-being (Odgers & Jensen, 2020; Vannucci et al., 2020). Early adolescence is therefore treated here as a

developmentally sensitive period rather than as an intrinsically or uniformly vulnerable stage.

At the same time, children's higher-order critical-evaluative competences—including the ability to assess credibility, recognise persuasive or manipulative intent, understand platform and algorithmic dynamics, and manage privacy—remain unevenly developed and should not be inferred from operational digital fluency alone (Livingstone & Smith, 2014; Smahel et al., 2020; Tan et al., 2024). These developmental and critical-literacy dimensions were not directly measured in the present study and therefore constitute literature-informed interpretation rather than empirical findings of the dissertation. This distinction is important: familiarity with a smartphone or social-media interface does not in itself indicate equivalent readiness to interpret and evaluate the complex informational, commercial, interpersonal, and algorithmic environments to which such access provides entry. The literature review in Chapter 2 similarly distinguishes early operational proficiency from higher-order critical competences that develop unevenly and depend not only on maturation but also on education and social context.

As children's increasingly autonomous digital participation expands, so too does the range of content, contact, conduct, and platform-related risks they may encounter, including harmful or age-inappropriate content, unwanted interactions, and less visible commercial or algorithmic forms of influence (Livingstone et al., 2011; Smahel et al., 2020; Tan et al., 2024). Risk exposure should not be equated with harm: encountering a potential online risk does not necessarily produce a negative outcome, and whether an encounter becomes upsetting, distressing, or damaging depends on characteristics of the child, the experience, and the surrounding social and developmental context (Livingstone et al., 2011; Livingstone & Smith, 2014). The potential significance of the protection gap therefore lies not in assuming that independent digital access is inherently harmful, but in the convergence of expanding opportunities for risk exposure with a lower prevalence of direct parent-enacted mediation during a period in which children are still developing some of the capacities required to interpret, evaluate, self-regulate, and cope with such encounters. This interpretation is consistent with the risk–harm distinction and age-gradient literature reviewed in Sections 2.2.2 and 2.2.3.

Several additional findings from the present study provide relevant empirical context for the configuration of the early adolescent protection gap without constituting part of its

definition. PIU-consistent experiences were substantially more common among older than younger children, increasing from 38% among 7–8-year-olds to 66% among 15–16-year-olds, while self-reported adverse online experiences also became more common across the 11–12, 13–14, and 15–16 age groups. These patterns do not locate problematic use or adverse experiences specifically within the 10–12-year transition, nor do they demonstrate that lower parental mediation causes either outcome. They nevertheless show that potentially dysregulated digital engagement and exposure to adverse online experiences become more prevalent across the broader age range in which parent-enacted mediation becomes less common. Parents' own risk perceptions add a further dimension: overall concern was particularly elevated among parents of 11–12- and 13–14-year-olds compared with parents of 7–8-year-olds. At the population level, therefore, heightened parental concern around early adolescence coexists with lower prevalence of several forms of direct parental mediation among parents of older children. This juxtaposition does not establish that more concerned parents mediate less, but it strengthens the rationale for examining how parental concern is translated into developmentally appropriate mediation practices.

Parents' perceptions of digital competence provide another potentially relevant contextual layer. Parents' average agreement with the statement that their child knows more about the correct use of the internet than they do declined steadily, from 3.30 in 2017 to 2.96 in 2020 and 2.85 in 2025. This indicates a narrowing perceived generational competence gap at the population level, but it does not demonstrate either an objective improvement in parental competence or an objective convergence between parents' and children's digital skills. Indeed, parents' perceived capacity to support their child in managing online risks did not increase between 2020 and 2025. Nor do the present data establish that parents mediate less because they regard either themselves or their children as sufficiently competent. The causal explanation suggested by such a possibility therefore remains a question for future research rather than an inference that can be drawn from the present data.

The distinction between operational fluency and critical competence is particularly relevant here. Among 11–16-year-olds, 68% regarded information encountered on social media and 76% information encountered on video-sharing platforms as almost always or mostly true. These findings raise questions about the evaluation of information encountered in digital environments, but they measure perceived source credibility, not demonstrated critical media literacy, and should therefore not be interpreted as direct evidence of a competence deficit. Read alongside the international literature, however, they reinforce the importance

of not equating children's familiarity with digital platforms with critical readiness to navigate them independently (Livingstone & Smith, 2014; Smahel et al., 2020; Tan et al., 2024). This revised interpretation directly addresses the distinction between measured attitudes and literature-informed claims about critical competence.

If the early adolescent protection gap captures more than the coincidental co-occurrence of several age-related patterns, it should generate empirically testable expectations. First, among children with comparable levels of autonomous digital participation, a greater mismatch between expanding digital autonomy and developmentally responsive parental guidance would be expected to predict less favourable subsequent digital outcomes than autonomous participation accompanied by sustained and appropriately adapted parental mediation. Second, continued communicative parental involvement would be expected to attenuate the relationship between expanding autonomous digital participation and adverse outcomes—for example, problematic use or the progression of some risk encounters towards harm—and to be associated with more adaptive coping and greater disclosure when adverse experiences do occur. Third, if the proposed gap is specifically linked to the transition into early adolescence, these relationships should become particularly salient around this developmental transition rather than operating uniformly across the entire 7–16-year age range. These propositions cannot be tested with the present repeated cross-sectional design and require longitudinal examination; their methodological implications are developed further in Section 8.3.

The literature reviewed in Chapter 2 documents many of the components of this configuration in separate strands: lower levels of several parental mediation strategies among parents of older children, increasingly early access to personal connected devices and social-media environments, increasing online-risk exposure with age, and the developmental reorganisation of autonomy and peer relations around adolescence (Coyne et al., 2017; Lafton et al., 2022; Smahel et al., 2020; Gerosa et al., 2024; Dedkova & Mýlek, 2023). Indeed, the research-gap analysis identified relatively limited population-level evidence examining the co-occurrence of early digital entry and age-related differences in parental mediation within the same analytical framework. The contribution of the present analysis therefore lies not in claiming that any one of these developmental or digital trends is novel, but in bringing them together within a single nationally representative Hungarian dataset and conceptualising their convergence as the early adolescent protection gap. In this

sense, the concept is proposed as a provisional, empirically grounded and testable interpretive framework rather than as an established causal developmental mechanism.

At the same time, the comparatively weaker age gradient of technical restriction suggests that parental mediation does not simply disappear as children grow older; its composition may also be changing. This distinction is important because a lower prevalence of direct parent-enacted mediation need not imply an equivalent reduction in all forms of parental intervention. The changing balance between direct parental involvement and technical restriction is examined in the following section.

6.3 The changing balance of parental mediation: the growing role of technical restriction

The comparison of the four parental mediation strategy trends presented in Section 5.4.5 indicates a marked population-level reconfiguration of the parental mediation repertoire. Between 2020 and 2025, restriction decreased from 66% to 57%, monitoring from 57% to 54%, and active mediation from 58% to 55%, whereas technical restriction increased substantially from 38% to 53%. The 15-percentage-point increase in technical restriction exceeded the magnitude of change observed for the other strategies, and every technical tool included in the survey became more prevalent over the same period. As a result, by 2025 the substantial difference that had separated technical restriction from the other strategies in 2020 had largely disappeared, with all four strategies converging within a relatively narrow prevalence range. Technical restriction was also distinctive in its age patterning: although it was less prevalent among parents of older children, its age gradient was weaker than that observed for the three parent-enacted mediation strategies, and it remained comparatively widespread into later adolescence. Taken together, these contrasting patterns are consistent with a growing relative role for technologically mediated forms of parental control and raise the possibility that some parental regulatory functions are increasingly being delegated to filters, timers, tracking applications, and other technical tools (Bertrandias et al., 2023). However, the repeated cross-sectional design does not establish that individual parents replaced parent-enacted mediation with technological controls. The findings therefore demonstrate a population-level reconfiguration that is consistent with a possible delegation or substitution dynamic, rather than individual-level “outsourcing” of parental mediation.

This development is theoretically relevant because the international literature indicates that the four mediation strategies are not functionally equivalent. Active mediation has been

associated with favourable outcomes in areas including children's digital literacy, safer digital participation, and well-being (Rosič et al., 2024; Sciacca et al., 2022; Ciboci & Labaš, 2019). Monitoring, while involving direct parental attention to children's digital activity, may operate differently depending on the relational context in which it is practised: intrusive or highly controlling monitoring can contribute to secrecy and reduced trust, whereas monitoring embedded in communication and a supportive parent–child relationship may function differently (Nichols & Selim, 2022; Priya & Maheswari, 2025; Savic, 2022). Technical restriction, by contrast, delegates part of the work of regulation to automated mechanisms that can continue to operate after they have been configured (Bertrandias et al., 2023). Bertrandias et al. (2023) further found that delegating some regulatory functions to parental-control software may benefit parents themselves by increasing anticipated efficacy and reducing stress.

At the same time, technical tools do not necessarily perform the same functions as direct parental involvement. Parent–child dialogue can contribute to trust-building and shared interpretation of digital experiences (Savic, 2022); active discussion of media content can support participatory and critical engagement with media (Wang & Chen, 2022; Ciboci & Labaš, 2019); and Lin et al. (2025) identified communication quality as an important pathway linking parental media attitudes with children's problematic media use. These findings do not imply that technical tools are ineffective, nor that restriction and monitoring should themselves be treated as inherently relational strategies. Rather, they suggest that software-based controls and parent-enacted practices can fulfil partly different functions within the wider parental mediation repertoire. This distinction is consistent with the literature reviewed in Section 2.5.5, where technical mediation emerges as a discrete strategy, conceptually distinct from interpersonal rule-setting and supervision (Livingstone & Helsper, 2008; Eastin et al., 2006; Tan et al., 2024).

Importantly, this distinction does not mean that technical mediation is necessarily opposed to enabling or supportive parenting. Some frameworks incorporate technical measures into broader enabling mediation repertoires when they are used to establish safer conditions for children's online participation rather than simply to prevent access (Livingstone et al., 2017; Smahel et al., 2020). From this perspective, technical controls may complement parental guidance by creating boundaries within which children can participate more autonomously online. At the same time, the evidence on parental-control technologies cautions against treating them as a self-sufficient safeguarding solution. In their rapid evidence review of 40

studies, Stoilova et al. (2023) found mixed outcomes: some technical controls were associated with reductions in particular forms of risk exposure, whereas other studies found no measurable benefit or identified potential costs involving children's privacy, autonomy, access to valued online opportunities, family conflict, or trust. The review further suggests that parents value such tools particularly when they are embedded within a broader repertoire of mediation practices and a positive parent–child relationship. Tan et al. (2024) similarly position technical mediation within a wider combination of protective and educational strategies. The critical question raised by the Hungarian trend is therefore not whether technical restriction is inherently beneficial or harmful, but what role it increasingly occupies within the wider mediation repertoire: whether it supplements and enables continued parental involvement or, in some families, comes to substitute for forms of mediation that depend more directly on parental engagement.

The growing prominence of technical restriction can also be considered in light of the parental-attitude findings presented in Section 5.3. Hungarian parents expressed relatively high trust in their children's ability to navigate the internet safely, while their own perceived capacity to support their children in managing online risks remained more moderate and did not increase between 2020 and 2025. At the same time, parental concern about online risks increased across survey waves and was broadly distributed across different categories of risk. These patterns do not demonstrate that parental attitudes caused the increase in technical restriction, since the present analyses did not test whether concern, self-efficacy, or perceived competence predicted technical-tool use. They nevertheless provide a potentially relevant attitudinal context, particularly in light of international evidence showing that parents' risk perceptions, digital skills, and perceived efficacy are related to how they approach mediation (Ciboci & Labaš, 2019; Helsper et al., 2025). The literature review in Chapter 2 similarly identifies digital self-efficacy and risk perception as proximal dispositional foundations that may shape parental mediation choices.

The affect-heuristic literature offers one possible interpretive lens for understanding why technical solutions may be attractive in situations characterised by uncertainty. Slovic and Peters (2006) describe how affective responses can shape risk judgements when threats are experienced as unfamiliar or difficult to evaluate, while boyd[1] and Hargittai (2013) draw attention to discrepancies between parental concern about online risks and evidence of

[1] danah boyd customarily renders her name in lowercase; this orthographic convention is preserved in the in-text citation and reference list entry in accordance with her stated preference (boyd, n.d.).

actual harm. Livingstone and Blum-Ross (2020) similarly describe diffuse or "free-floating" anxieties surrounding parents' attempts to make sense of rapidly changing digital environments. Ciboci and Labaš (2019) observe that parents who lack confidence or knowledge regarding digital mediation may rely more heavily on restrictive or technical solutions, and Helsper et al. (2025) further demonstrate the relevance of perceived control, skills, and risk perception to parental mediation choices. Taken together, these perspectives make it plausible that technical controls can offer parents a concrete and readily actionable response to digital risks that may otherwise appear difficult to assess or manage. The present data do not, however, establish this affective or cognitive mechanism, and the coexistence of broad parental concern and increasing technical restriction should therefore be understood as a hypothesis-generating pattern rather than evidence that one produces the other. In particular, the high internal consistency of the parental-concern items should not itself be interpreted as evidence of a single undifferentiated psychological risk perception.

The education gradient adds an important socioeconomic dimension to this interpretation. After adjustment for child age, higher parental education remained associated with a greater likelihood of applying all three parent-enacted mediation strategies, with the largest education-related difference observed for active mediation. Technical restriction is not distributed uniformly across educational groups. In a separate bivariate analysis, its prevalence increased from 34.8% among parents with primary-level education to 48.3% among those with vocational education, 54.3% among those with secondary education, and 64.5% among tertiary-educated parents. Because this comparison was unadjusted, it cannot establish an education effect independent of child age or other family characteristics. Nevertheless, the pattern clearly indicates that technical restriction itself is socially stratified rather than education-neutral.

This finding does not remove the relevance of socioeconomic inequalities in digital parenting; rather, it changes their interpretation. Kutrovátz (2021, 2022) has argued that unequal parental resources and mediation practices contribute to the formation of digital cultural capital in Hungarian families. The present findings are compatible with this broader account, while suggesting that educational advantage may be reflected not only in parent-enacted mediation but also in the uptake of technical forms of mediation. This interpretation also connects with evidence reviewed in Section 2.5.5 indicating that technological access and digital literacy shape parents' adoption of parental-control tools and online-safety settings (Nichols & Selim, 2022; Wahyuningrum et al., 2020; Tan et al., 2024). Rather than

showing that technical tools compensate straightforwardly for lower parent-enacted mediation among less advantaged families, the Hungarian data therefore point more broadly to the social stratification of the resources and practices available for digital parenting.

The Hungarian pattern is also relevant to the wider Central and Eastern European literature. Kalmus and Roosalu (2011) conceptualise parental mediation not simply as a matter of individual parenting choice but as a practice embedded in wider institutional and cultural conditions that structure parents' time, knowledge, and socialising resources. In their cross-national European analysis, post-communist contexts tended either towards relatively low overall mediation or a stronger reliance on restrictive rules and technical solutions, which the authors linked partly to historically distinctive configurations of work and family life. The increasing prominence of technical restriction in Hungary is compatible with this broader regional account, although the present study cannot test the macro-level mechanisms proposed by Kalmus and Roosalu. It nevertheless contributes population-level evidence from a Central and Eastern European setting that remains comparatively underrepresented in the parental-mediation literature.

It is important to emphasise that the present findings do not imply that technical tools are inherently harmful or that parents should not use them. The literature recognises their legitimate role within a broader mediation repertoire (Livingstone et al., 2017), and technical controls may provide practical support in a digital environment where increasingly personalised and mobile media use makes continuous direct parental observation difficult. The more specific issue raised by the present findings is the changing balance of that repertoire: technical restriction became substantially more prevalent between 2020 and 2025, while the three parent-enacted strategies were all somewhat less prevalent in 2025, although the magnitude and statistical reliability of those changes differed across strategies. Technical restriction also remained relatively more prevalent among parents of older children than the steeper age gradients of the parent-enacted strategies would suggest. These population-level patterns make the distinction between substitution and complementarity theoretically important. Technical tools may extend and support direct parental mediation; alternatively, in some families, they may partly displace forms of mediation based on continuing parental interaction. The present repeated cross-sectional data cannot determine which of these processes is occurring within individual families. The following section therefore turns from changes in the prevalence and composition of parental mediation to the associations between individual mediation strategies and children's digital outcomes.

6.4 Parental mediation strategies and children's digital outcomes

The cross-variable analyses conducted for RQ5 provide an important counterpoint to the population-level trends discussed in the preceding sections. Across several child outcomes, the three parent-enacted mediation strategies—active mediation, monitoring, and restriction—showed more consistent favourable bivariate associations than technical restriction, although the pattern differed substantially by outcome domain. For leisure screen time, all three parent-enacted strategies were associated with lower reported use on both weekdays and weekends, with restriction showing the largest bivariate difference. Technical restriction showed only a very small association with weekday screen time and no corresponding association at weekends. A similar contrast emerged for PIU-consistent experiences: active mediation, monitoring, and restriction were each associated with lower levels of reported problematic-use indicators, whereas technical restriction showed no statistically significant association.

These findings are broadly compatible with the international literature reviewed in Sections 2.3.2 and 2.5. Research on problematic technology use emphasises that parental mediation can be relevant to children's capacity to regulate digital engagement, but that associations vary according to mediation type, child age, and the wider parenting context (Tan et al., 2024; Zhang et al., 2025). Active mediation in particular has often been associated with more favourable digital outcomes, including lower online risk, greater digital skills, and reduced experiences of harm, while allowing continued online participation (Duerager & Livingstone, 2012; Chen & Shi, 2019; Tan et al., 2024). The present Hungarian pattern is consistent with this literature, but does not establish that active mediation itself produced the observed differences. The analyses are cross-sectional and predominantly unadjusted, and both child age and the co-occurrence of different mediation strategies may contribute to the associations.

The findings also support a more differentiated interpretation of restriction than the original version of this discussion suggested. Restriction showed one of the clearest favourable bivariate patterns for screen time and was also associated with lower levels of PIU-consistent experiences and lower reported use of anonymous or unregistered chat platforms. At the same time, restriction was not significantly associated with the three broader indicators of adverse online experiences examined in Section 5.5.5. This outcome-specific pattern corresponds closely to the literature reviewed in Section 2.5.3, where restrictive mediation is described as particularly suited to limiting concrete behaviours or exposure but

less uniformly associated with broader digital outcomes. Meta-analytic and review evidence likewise suggests that restriction may be relatively effective for reducing screen time and some contact-related risks, while its associations vary by age, platform, risk type, and the way rules are communicated (Chen & Shi, 2019; Fam et al., 2023; Tan et al., 2024).

The specific friend-request analysis provides a particularly clear illustration of this point. Children whose parent reported a rule prohibiting online contact with strangers without parental knowledge were much less likely to report that they usually accepted a stranger's friend request (3% vs. 17%) and more likely to report that they usually consulted a parent (32% vs. 14%). Importantly, this analysis concerns a specific parent-reported restrictive rule, not active mediation or a composite measure of parent–child dialogue. Its interpretation should therefore remain correspondingly narrow: the presence of a rule targeted at a clearly defined contact risk was strongly associated with children reporting a more cautious response to that same type of situation. The analysis does not establish that the rule caused this behaviour, nor whether the rule was communicated in a supportive, negotiated, or controlling manner.

This distinction is reinforced by the literature on restrictive mediation. Self-Determination Theory suggests that externally introduced rules are more likely to be internalised when they are communicated in ways that preserve the child's sense of autonomy and provide understandable reasons for the restriction (Ryan & Deci, 2000, 2017). More directly, Yue et al. (2026) found that restrictive mediation was associated with adolescents' constructive orientation towards online community guidelines when it was accompanied by autonomy-supportive communication, whereas highly restrictive parenting without such communication showed no comparable association. The friend-request finding in the present study cannot test this mechanism, because communication style was not measured in that analysis, but it is compatible with the broader proposition that targeted rules may be particularly meaningful when they are embedded in an understandable and supportive family context. Cavallini and Caravita (2021) identify parental empathy, interest, and positive parent–child communication as relevant factors in young people's exposure to and management of online risks, while Rosič et al. (2024) report favourable associations between autonomy-supportive active mediation and digital flourishing. These studies should not be treated as direct explanations of the present rule-specific association, since neither empathy nor autonomy-supportive communication was measured in Section 5.5.7. They nevertheless reinforce a wider point also made in the literature review: the behavioural

form of a mediation strategy and the relational context in which it is enacted are analytically distinct but potentially interacting dimensions.

Active mediation showed the most consistently favourable pattern across the three adverse-online-experience indicators. It was significantly associated with lower reported prevalence of online risk exposure, actual harm, and rights violations, while monitoring was associated with lower reported risk exposure and actual harm but not rights violations. Restriction and technical restriction showed no statistically significant associations with these broader adverse-experience indicators. The observed effect sizes were small, however, and these findings should not be read as evidence that active mediation independently prevents online risks or harms. International evidence itself is more nuanced: Duerager and Livingstone (2012), for example, found favourable associations between active mediation and both risk management and reduced harm, but also showed that these relationships varied with age; broader syntheses likewise emphasise that mediation–outcome associations are heterogeneous and often conditioned by developmental and relational factors (Tan et al., 2024, 2025).

A similarly modest pattern emerged for anonymous or unregistered chat-platform use. Active mediation, monitoring, and restriction each showed statistically significant but very small bivariate associations with lower reported use, whereas technical restriction did not. Taken together with the adverse-experience results, this reinforces the conclusion that no single mediation strategy shows uniformly favourable associations across all child outcomes. Active mediation is the most consistent across several domains, but even its associations vary in strength and may reflect age, family context, or reciprocal responses to children's pre-existing behaviour. Monitoring and restriction likewise show favourable associations for some outcomes but not others. This outcome-specific pattern accords with the Literature Review's broader conclusion that discrete strategy labels have limited explanatory power unless developmental stage, parenting style, communication quality, and the type of digital behaviour or risk are also considered (Ren & Zhu, 2022; Tan et al., 2024).

Technical restriction presents a different pattern. Across screen time, PIU-consistent experiences, adverse online experiences, and anonymous-platform use, its favourable associations were weaker and less consistent than those observed for the three parent-enacted strategies. This pattern is compatible with the mixed international evidence on parental-control technologies discussed in Section 6.3 and in the literature review (Stoilova

et al., 2023; Tan et al., 2024). It does not, however, demonstrate that technical restriction is ineffective or lacks a protective function. The present analyses examine a limited set of outcomes and do not establish independent effects, and technical tools may serve functions—such as creating boundaries or supporting other forms of mediation—that are not captured by these comparisons. Indeed, a different pattern emerges for parental disclosure following negative online experiences, where technical restriction is positively associated with children's disclosure to parents; this is discussed separately in Section 6.7.

Overall, the RQ5 findings therefore support a more qualified conclusion than a simple opposition between "relational" and "technical" mediation. Parent-enacted strategies showed more consistent favourable bivariate associations across several child outcomes, but restriction and monitoring are not inherently relational, and their associations appear to depend on the behaviour examined and potentially on the manner in which they are enacted. Technical restriction showed fewer favourable associations across the outcomes considered here, but the present data cannot establish that it is ineffective or that it should be replaced by other strategies. Rather, the findings reinforce the view developed in the literature review that parental mediation functions as a repertoire whose individual components may serve partly different purposes and whose significance depends on developmental, behavioural, and relational context. The following section turns to a different and initially counterintuitive RQ5 pattern: the association between broader current parental mediation and earlier digital entry.

6.5 Earlier digital entry in more intensively mediating families: towards a scaffolded-onboarding interpretation

Another key contribution of the cross-variable analyses concerns the relationship between current parental mediation and the timing of children's entry into the digital environment. A simple gatekeeping expectation might suggest that parents who mediate more extensively would delay children's access to personal devices and social-media platforms. The present findings, however, show a different cross-sectional pattern. For each of the four mediation strategies examined individually, children whose parents currently reported the strategy also reported an earlier age of first personal-device ownership and an earlier age of first social-media registration than children whose parents did not report that strategy. A corresponding pattern was evident across the mediation profiles: children in the passive profile reported the latest digital entry, while those in the all-rounder profile reported the earliest.

Part of this apparently counterintuitive profile pattern can be attributed to cohort composition. Parents in the passive profile disproportionately had older children, whose first device acquisition occurred several years earlier, when later digital entry was more typical at the population level. The supplementary norm-adjusted analysis reported in Section 5.5.1 showed that children in the passive profile acquired their first device only 0.07 years later than the estimated norm for their period, whereas children in the all-rounder profile acquired theirs 0.56 years earlier than their corresponding period-specific norm. The adjustment therefore substantially reduces the interpretation that passive-profile children entered unusually late, while leaving a residual earlier-entry difference for the all-rounder profile. Importantly, however, this does not establish that parental mediation caused earlier access or that the mediation practices reported at the time of the survey were already in place when the child first obtained a device. Rather, it indicates that cohort composition accounts for part, but not all, of the observed association between current mediation profile and age at first device ownership.

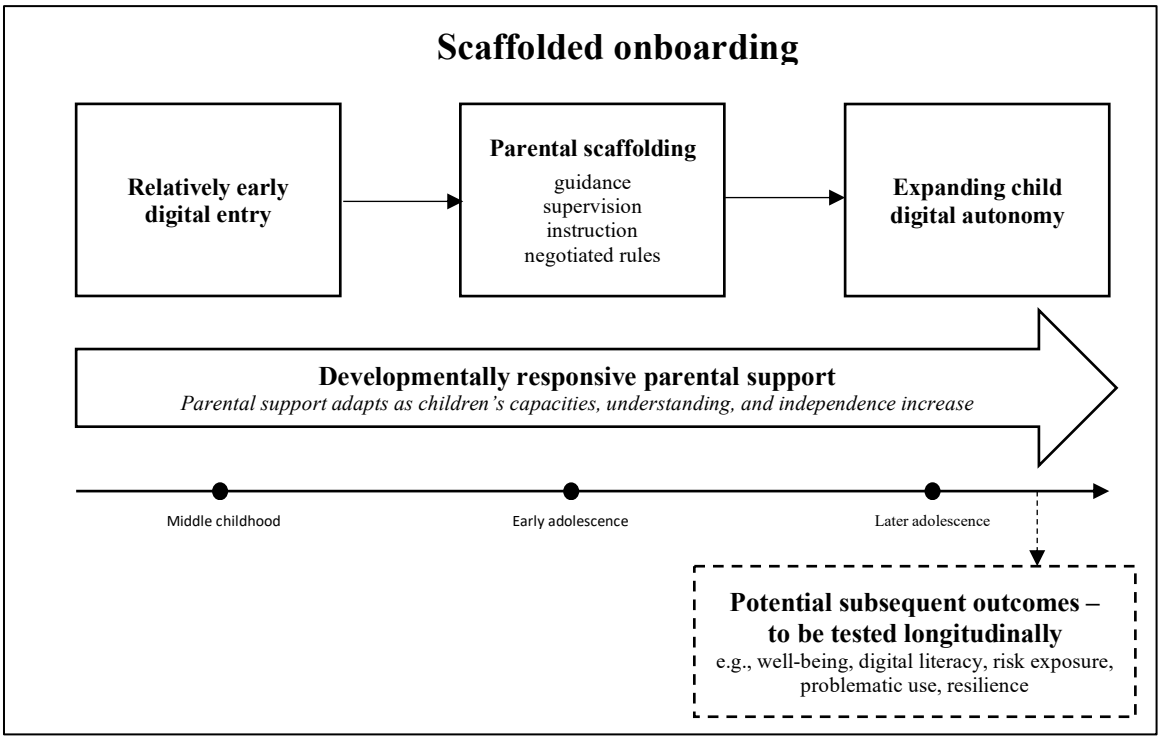
No equivalent norm-adjusted analysis was conducted for age at first social-media registration. The corresponding profile gradient should therefore be interpreted more cautiously, particularly because passive-profile parents tend to have older children whose first registrations occurred when later platform entry was more typical. Nevertheless, the recurrence of the same direction of association across the four individual mediation strategies and across both device and social-media entry is noteworthy. The finding does not fit a simple model in which greater current parental mediation is necessarily associated with later digital access. Instead, it is compatible with the possibility that, in some families, relatively early digital entry and continued parental involvement form part of the same broader approach to digital parenting.

The dissertation conceptualises this possibility as *scaffolded onboarding*, which is proposed here as a theoretical construct rather than as a directly measured variable or composite indicator. Scaffolded onboarding is conceptualised here as a mode of digital entry in which children's relatively early access to personal devices and online environments is accompanied by sustained, developmentally responsive parental guidance, supervision, instruction, and negotiated rule-setting, rather than being managed primarily through delayed access or exclusion. The "scaffolding" lies in parental support that accompanies children's increasing digital autonomy and can be progressively adapted as their capacities and independence develop (see Figure 24). The present study does not directly observe this

longitudinal process: parental mediation was measured at the time of the survey rather than at the point of first device acquisition or social-media registration. The empirical findings therefore indicate a pattern consistent with scaffolded onboarding, rather than demonstrating that such accompaniment was already in place at the time of digital entry.

Figure 24

Scaffolded onboarding as a proposed theoretical construct



Source: Author's own conceptualisation developed from the empirical findings of the present dissertation

Note: Scaffolded onboarding is proposed in this dissertation as a theoretical construct rather than as a directly measured composite or longitudinal process. The present findings show that relatively earlier digital entry is associated with more comprehensive current parental mediation, a pattern that provides the empirical basis for the proposed construct. The figure represents the hypothesised process of sustained, developmentally responsive parental accompaniment and does not imply that such accompaniment was directly observed at the time of digital entry or that it causes subsequent child outcomes. Developmental periods are shown schematically rather than as fixed age boundaries.

Classical parental-mediation theory already positions parents not only as gatekeepers but also as interpreters and guides of children's media experiences (Nikken & Schols, 2015; Livingstone & Helsper, 2008), while contemporary digital-parenting frameworks conceptualise parenting in connected environments as combining regulation, support, teaching, and facilitation rather than restriction alone (Benedetto & Ingrassia, 2020; Livingstone & Blum-Ross, 2020). Active mediation in particular involves discussion, explanation, and shared interpretation of online experiences, and EU Kids Online frameworks similarly distinguish enabling approaches that seek to support safer

participation rather than simply prevent access (Livingstone & Helsper, 2008; Smahel et al., 2020). From this perspective, scaffolded onboarding does not reject the gatekeeping function of parenting; rather, it reframes digital entry as a process in which access may occur relatively early but is accompanied by guidance and support that can be adapted as the child's autonomy develops.

The literature on children's social-media entry provides an especially relevant connection. As reviewed in Section 2.1.3, early platform participation is increasingly treated as a structural feature of contemporary childhood, and the conditions under which children enter these environments are shaped jointly by platform architecture, developmental timing, and family-level resources (Smahel et al., 2020; Tan et al., 2024). The literature review accordingly argues that early social-media entry cannot be understood as a chronological marker alone: parental awareness and mediation may help determine whether early participation occurs largely without support or within a more guided environment (Livingstone & Helsper, 2008; Tan et al., 2024). The scaffolded-onboarding interpretation extends this reasoning by shifting attention from whether access is early to how early access is accompanied.

This distinction also clarifies the relationship between scaffolded onboarding and the early adolescent protection gap introduced in Section 6.2. The protection gap describes the population-level mismatch between expanding autonomous digital access and the lower prevalence of parent-enacted mediation across successive age groups. Scaffolded onboarding can be understood as a conceptually different, family-level configuration in which relatively early digital entry and expanding autonomy are accompanied by sustained and developmentally responsive parental involvement. In theoretical terms, such a configuration might reduce the mismatch captured by the protection-gap concept. The present data, however, cannot establish that families showing the observed earlier-entry/more-comprehensive-mediation pattern actually experienced lower subsequent risk, harm, or problematic use because of the way digital entry was managed. Testing whether scaffolded onboarding mitigates later adverse outcomes requires prospective longitudinal research beginning before children receive personal devices or register on social media.

Two selection boundaries further qualify the present interpretation. First, the device-entry analyses are based on children participating in the digital-media-use analytical sample, meaning that families in which children remain outside regular digital-media use are not

represented in the same way. Second, age at first social-media registration can only be observed among children who have registered on a platform; children whose registration has been delayed or has not occurred do not contribute an observed registration age. These boundaries may affect the estimated associations between mediation and timing of digital entry, but their direction and magnitude cannot be determined from the present data. The results should therefore not be interpreted as evidence that mediation generally accelerates digital entry or that restriction fails to delay it. Rather, the observed pattern provides an empirical basis for the further investigation of scaffolded onboarding: whether, under what conditions, and with what consequences relatively early digital entry may be accompanied by sustained and developmentally responsive parental mediation.

Taken together, the findings support a reframing of parental mediation that complements rather than replaces the traditional gatekeeping perspective. In contemporary digital childhood, the parental task may involve not only deciding when access is permitted, but also determining how children are accompanied as increasingly personal and autonomous digital participation begins. The scaffolded-onboarding concept is proposed here as an interpretive framework for this second function: accompanied entry rather than either unrestricted access or delayed access alone. The present findings provide an empirical pattern compatible with this proposition, while its temporal sequence, mechanisms, and consequences remain to be established through longitudinal research.

6.6 Coping and non-disclosure following adverse online experiences

The urgency of the findings documented above is underscored by the data on children's adverse online experiences and their coping responses (see Section 5.2.3). The fact that 72% of affected children reported experiencing the event negatively shows that online risks are not merely theoretical possibilities but often lived experiences with tangible emotional consequences. Under the study's operationalisation, these negatively appraised experiences meet the criterion for experienced harm rather than risk exposure alone (Nemzeti Média- és Hírközlési Hatóság, 2025, p. 141). At the same time, the remaining cases demonstrate why exposure to online risk should not automatically be equated with harm. This pattern is consistent with the broader literature, which emphasises the analytical importance of distinguishing exposure to risk from experienced harm and the role of individual and contextual factors in whether risk translates into negative consequences (Livingstone & Haddon, 2009; Livingstone & Smith, 2014; Livingstone et al., 2016).

Yet the most concerning finding is not the prevalence of harm itself, but the substantial proportion of children reporting neither action nor disclosure: 32% reported doing nothing and telling nobody about what had happened. Only 30% reported telling their parents, and formal or institutional coping mechanisms—for example, telling a teacher (7%) or using a platform's formal reporting function (3%)—were rarely utilised. Importantly, children's responses nevertheless formed a heterogeneous coping repertoire, ranging from interpersonal disclosure to self-directed protective actions, direct confrontation, and changes to accounts or security settings. The 32% should therefore be understood as a substantial subgroup within this broader coping landscape rather than as representative of children's responses as a whole.

This pattern closely resembles, although is not directly comparable with, the broader European picture. EU Kids Online 2020 found that children who had been bothered or upset online most often turned to parents or peers: on average across countries, 40% talked to a parent and 50% to a friend, compared with only 5% who talked to a teacher and 3% who sought help from a professional; 19% reported talking to nobody (Smahel et al., 2020). The Hungarian and EU Kids Online percentages should not be compared as equivalent estimates because the measures and response categories differ, most importantly because the Hungarian response combines taking no action with telling nobody. Nevertheless, the overall configuration is strikingly similar: immediate social relationships occupy a central position in children's reported responses, formal support channels are used much less frequently, and a substantial minority report no interpersonal disclosure. The literature review documents the same international pattern and also shows that coping responses range from ignoring or closing the problem to blocking, changing privacy settings, and formal reporting.

The 32% non-action and non-disclosure response should not, however, be interpreted as evidence of problem denial, an inability to cope, or proof that these children were entirely without available support. The present survey identifies what children reported doing following an adverse experience, but it does not establish why they chose a particular response or whether other forms of support were available but not accessed. Existing research indicates that coping and disclosure may depend on the perceived seriousness of the incident, children's perceived competence, the availability of trusted sources of support, and expectations about how disclosure will be received (Livingstone & Smith, 2014; Smahel et al., 2020). In particularly sensitive forms of online victimisation, research has

additionally identified confusion, self-blame, shame, fear of negative reactions, and concerns that adults may not understand the online dynamics as potential barriers to disclosure (Smith et al., 2023; Paat & Markham, 2021). These mechanisms were not directly measured in the present study and cannot therefore be assumed to explain the Hungarian pattern, but they illustrate why non-disclosure may represent a complex response rather than simple passivity.

The pattern also remains relevant to the age-related differences in parental mediation documented in Section 6.2 and to the changing balance of mediation discussed in Section 6.3. The present data do not establish that the lower prevalence of parent-enacted mediation among parents of older children causes non-disclosure, nor that the growing prominence of technical restriction leads parents to become less available as sources of support. The findings do, however, draw attention to the functional distinction between technological regulation and the interpersonal support that may be needed once an adverse experience has already occurred. A content filter does not itself provide emotional support after a hurtful online interaction. A screen-time-control application does not itself offer the responsive conversation a child may need after encountering disturbing content. A location-tracking tool does not itself provide reassurance or emotional support after an upsetting online experience. Such functions require responsive human interaction. Parents may occupy a particularly important position in this respect, as the present findings indicate, but peers, siblings, teachers, professionals, and other trusted adults can also provide relevant forms of interpersonal support.

This interpretation resonates with Cavallini and Caravita's (2021) emphasis on empathy, interest, and positive parent–child communication in children's online lives, with Seddighi et al.'s (2022) argument that media literacy requires engaging with the social dimensions of media rather than merely filtering them, and with Wang and Chen's (2022) call for reconceptualising parental intervention from "safe use" to "better use" through interactive, dialogue-based engagement. As Wang and Chen (2022) suggest, parents can act not only as enforcers or observers but also as guides and collaborators, potentially contributing to children's digital literacy and family online relationships. These perspectives should not be read as evidence that deficiencies in parental communication caused the non-disclosure observed in the present study. Rather, they provide a literature-informed basis for understanding why interpersonal responsiveness may become particularly important once an online risk has already resulted in an adverse experience.

From a developmental and policy perspective, these findings also align with the broader risk–harm literature, which argues for a shift away from a narrow "exposure-avoidance" model towards supporting children in managing online risks and, where possible, turning them into learning opportunities (Livingstone & Smith, 2014; Smahel et al., 2020). Rather than assuming that the mere absence of exposure guarantees safety, this perspective highlights the potential contribution of critical digital literacy, emotionally supportive relationships, and enabling forms of parental mediation to children's capacity to manage risk and recover from adverse experiences (Livingstone et al., 2017; Livingstone & Smith, 2014; Tan et al., 2024). Critical digital literacy was not directly measured in the present dissertation and is invoked here as a literature-informed interpretive framework rather than as an empirically assessed explanatory mechanism. Conversely, pre-existing vulnerabilities, social marginalisation, and hostile peer environments can increase the likelihood that similar online encounters develop into harm, underscoring the need for responses that operate across individual, familial, institutional, and structural levels (Paat & Markham, 2021; Tan et al., 2024).

Taken together, the findings point towards a multi-layered conception of online safety in which reducing preventable exposure remains important but is complemented by strengthening children's coping resources and ensuring accessible interpersonal and institutional pathways to support. The central concern emerging from the Hungarian data is therefore that a substantial subgroup reported neither taking action nor disclosing the experience to anyone, while formal support channels were rarely used. The following section examines one specific part of this broader coping landscape: whether different forms of parental mediation were associated with children's disclosure to their parents following an actual negative online experience.

6.7 Parental mediation and children's help-seeking after adverse online experiences

The same data that reveal a substantial pattern of non-disclosure following adverse online experiences also indicate that this pattern is not uniform. As the previous section and Section 5.2.3 showed, a sizeable subgroup of affected Hungarian children reported doing nothing and telling nobody about what had happened. Against this backdrop, the analyses reported in Section 5.5.8 reveal a particularly pronounced pattern: across all four parental mediation strategies, children's disclosure to their parents following an actual negative online experience was more prevalent when the corresponding mediation strategy was reported by

the parent. These findings are compatible with the possibility that parental mediation is associated not only with children's digital behaviour and risk exposure, but also with the communicative conditions under which children turn to their parents after something negative has already occurred.

Across the four strategies, the pattern was consistent. Parental disclosure was reported by 47.0% of children whose parents applied active mediation, compared with 19.4% where active mediation was not reported; the corresponding proportions were 48.6% versus 19.3% for monitoring, 43.7% versus 18.8% for restriction, and 42.1% versus 23.0% for technical restriction. The mediation-profile analysis showed an even more pronounced descriptive gradient: parental disclosure increased from 17.7% among children in the passive-profile group to 28.7% in the intermediate group and 61.5% among children in the all-rounder group. Thus, the positive association with disclosure was not confined to active mediation, but appeared across different forms of current parental mediation and was strongest descriptively among children whose parents exhibited the most comprehensive mediation profile.

This pattern is theoretically important because disclosure following an adverse online experience represents a different outcome from the prevention of risk exposure itself. The present findings do not show that mediation prevented the negative experience from occurring; all children included in this analysis had already reported at least one negative online experience. Rather, the analysis concerns what happened after such an experience: whether the child reported telling a parent. This distinction is consistent with the conceptual framework developed in Section 2.8, which treats risk exposure, harm, coping, and disclosure as analytically distinct stages and allows parental mediation to be relevant not only to exposure itself but also to the relational and communicative context in which children interpret and disclose adverse experiences.

The relatively strong association observed for active mediation fits particularly well with the literature reviewed in Section 2.2.5. Research on parental mediation suggests that children are more likely to seek parental support in environments where discussion, explanation, and shared interpretation of digital experiences are normalised (Livingstone & Helsper, 2008; Livingstone & Blum-Ross, 2020). More broadly, coping with online risk has been conceptualised as a relational as well as an individual process, shaped by the availability of trusted support, children's expectations about how disclosure will be

received, and the communicative quality of the family environment (Smahel et al., 2020; Livingstone & Smith, 2014; Kutrovátz, 2021). The present findings are consistent with this perspective, although the analyses do not directly measure trust, non-judgmental communication, or emotional availability as mechanisms linking mediation to disclosure.

The findings for monitoring and restriction add an important qualification. Neither strategy is inherently relational or dialogic: monitoring may range from open supervisory involvement to comparatively unilateral checking, while restrictions may be imposed with varying degrees of explanation and negotiation. Nevertheless, both were positively associated with children's disclosure to parents. This suggests that the association cannot be reduced to active dialogue alone. One possible interpretation is that rules, monitoring, and other forms of parent-enacted mediation may, in some families, be embedded within a broader pattern of parental attention to the child's digital life. The present measures, however, do not establish the relational quality with which these strategies were enacted. Accordingly, the findings should not be taken to mean that monitoring or restriction automatically creates trust or facilitates disclosure.

Perhaps most noteworthy is the positive association observed for technical restriction. In several of the earlier RQ5 analyses, technical restriction showed weaker or less consistent favourable associations with the child outcomes examined, whereas here children whose parents reported technical restriction were also more likely to report having told their parents about a negative online experience. One plausible interpretation is that the use of technical tools may sometimes function as an indirect indicator of broader parental engagement with the child's online life, rather than exerting a direct communicative effect in itself. This possibility is consistent with the interpretation developed in Section 5.5.8. It would, however, go beyond the present evidence to conclude that technical controls themselves signal parental care to children or cause them to disclose. The dissertation did not measure children's perceptions of parental-control technologies, nor did it determine whether parents using such tools differed systematically in other forms of involvement.

At the same time, the findings also reveal that mediation is far from guaranteeing disclosure. Even among children whose parents reported active mediation or monitoring, fewer than half reported disclosing the negative experience to their parents, while disclosure reached 61.5% even in the all-rounder profile rather than approaching universality. This remaining non-disclosure is consistent with the broader literature showing that children's decisions to

tell adults about online problems depend on multiple factors beyond the mere presence of parental mediation. Children may anticipate blame, punishment, loss of digital privileges, misunderstanding, or parental overreaction; in more sensitive situations, shame, self-blame, fear, and uncertainty about adults' responses may also inhibit disclosure (Smahel et al., 2020; Paat & Markham, 2021; Smith et al., 2023). These explanations were not tested in the present study, but they help illustrate why the association between mediation and disclosure should not be interpreted as deterministic.

Equally important, the direction of the observed associations cannot be established. An established pattern of parental mediation may contribute to a family environment in which children are more willing to disclose negative online experiences. The reverse sequence is also plausible: a child's disclosure of a previous negative experience may prompt parents subsequently to introduce or intensify active mediation, monitoring, restrictions, or technical controls. The present cross-sectional analysis cannot distinguish between these pathways, and the associations are unadjusted for child age, the type or severity of the adverse experience, and other family characteristics that may influence both mediation and disclosure. The comparatively pronounced profile gradient should therefore not be interpreted as an independent or causal effect of increasingly comprehensive mediation.

Nevertheless, the pattern adds an important dimension to the interpretation of parental mediation in this dissertation. Across several earlier outcomes, mediation was examined primarily in relation to children's digital participation, problematic-use indicators, or exposure to online risks. The disclosure findings suggest that another potentially important function of parental mediation occurs after risk has already translated into a negative experience: its association with maintaining a communication channel through which children may turn to a parent. The observed associations do not demonstrate this relational mechanism, but they are compatible with the proposition that the significance of parental mediation extends beyond risk prevention to the communicative context of coping and disclosure. This interpretation is also consistent with the literature review's broader conclusion that the behavioural form of mediation and the relational climate in which it occurs are distinct but potentially interacting dimensions of digital parenting.

These findings, therefore, add an important nuance to the preceding discussion of non-disclosure. A substantial proportion of children do not report adverse online experiences to their parents, but this silence is not distributed uniformly across parental mediation contexts.

Current parental mediation—across active, supervisory, restrictive, and technical forms—is positively associated with children's reported disclosure to parents following a negative online experience, with the strongest descriptive gradient observed across the mediation profiles. The results identify a pattern consistent with the importance of maintaining communicative and supportive channels alongside efforts to reduce preventable online risks. For practice and policy, this reinforces the argument that online-safety interventions should address not only exposure prevention but also the conditions under which children feel able to seek and receive support when adverse experiences occur.

7. IMPLICATIONS FOR THEORY, POLICY, PRACTICE, AND RESEARCH

The findings of this study carry implications at four interrelated levels: for the theoretical understanding of digital parenting and parental mediation, for the design of evidence-based policy, for practice in family support, education, and other child-focused professional settings, and for the methodological development of future digital-parenting research and monitoring. These implications are discussed in turn below.

7.1 Theoretical implications

The present dissertation makes several contributions to the theoretical understanding of parental mediation. At a broader conceptual level, the dissertation contributes an integrative framework for understanding digital parenting that brings together domains often examined separately in the literature: developmental and contextual conditions, parental dispositions, parental mediation practices, children's digital participation and use, and their online experiences, risks, and responses. Importantly, the framework distinguishes parental attitudes and perceived capacities from concrete mediation practices, treats the relational and communicative context as a cross-cutting dimension rather than as an additional mediation strategy, and separates digital participation from the pathway linking risk exposure, experienced harm, coping, disclosure, and help-seeking. It also allows for reciprocal rather than strictly unidirectional relationships between parental practices and children's digital lives. The empirical analyses do not constitute a formal test of the framework as a whole, but they demonstrate the analytical value of considering these dimensions within a common conceptual system.

First, the repeated cross-sectional data document a population-level reconfiguration of the Hungarian mediation landscape: restriction and active mediation were less prevalent in 2025 than in 2020, monitoring showed a smaller, non-significant decrease, while technical restriction increased markedly. This contrasting pattern is consistent with the substitution hypothesis advanced in the literature (Livingstone et al., 2017; Cino et al., 2020), but the repeated cross-sectional design does not establish that individual parents replaced one form of mediation with another. Rather, the findings indicate a growing relative role for technical mediation within the population-level mediation repertoire. The results therefore qualify the

implicit assumption in much of the mediation typology literature that the four strategies necessarily operate as complementary components that change in parallel. The Livingstone and Helsper (2008) framework and the EU Kids Online model (Livingstone et al., 2017) conceptualise technical mediation as one element within a broader repertoire of enabling strategies. The present findings suggest that theoretical models should allow for changing combinations of mediation strategies, including both complementarity and possible substitution, while recognising that such dynamics require direct longitudinal testing at the family level.

Beyond this cross-wave reconfiguration, the exploratory RQ5 analyses point to a conceptually important asymmetry in the pattern of associations between parent-enacted strategies and technical tools. Active mediation, monitoring, and restriction showed more consistent favourable bivariate associations across several of the child outcomes examined, including leisure screen time and problematic-internet-use indicators, whereas the corresponding associations for technical restriction were generally weaker and less consistent. At the same time, the pattern varied across outcomes: no strategy was uniformly associated with more favourable outcomes, and technical restriction was positively associated with children's disclosure to parents following negative online experiences. These findings therefore do not establish independent protective effects of particular strategies, nor do they imply that technical mediation is ineffective. Rather, they suggest that parental mediation is better conceptualised as a functionally heterogeneous repertoire than as a hierarchy of inherently more or less effective strategies, with the significance of any particular practice potentially depending on the child's age, the outcome under consideration, the broader family context, and the way in which the strategy is enacted. The matched parent–child finding concerning rules about contact with strangers further suggests that broad mediation categories may not fully capture the relevance of specific, behaviourally targeted family practices. The strong bivariate association between a parent-reported rule concerning contact with strangers and the corresponding child-reported response does not establish a causal effect of rule-setting, but it highlights the theoretical value of examining the content and behavioural specificity of mediation practices alongside broader strategy-level classifications.

A third theoretical implication concerns the distinction between operational digital confidence and critical media literacy. Children's generally positive orientations towards the digital environment coexist with limited differentiation in their assessments of the credibility

of different online information sources, while parental attitudes likewise indicate that perceived competence in navigating the digital environment should not be equated with critical-evaluative competence. Because the present study did not directly measure critical media literacy as a validated construct, these findings do not demonstrate low critical media literacy. Rather, they reinforce the conceptual importance of distinguishing among the operational, critical, and social dimensions of digital competence instead of treating them as interchangeable capacities (see also Szőke-Milinte, 2020).

Fourth, the data contribute to the conceptualisation of the early adolescent protection gap. The developmental significance of this age pattern should also be considered against the changing technological context of childhood. Digital participation increasingly takes place through personal, portable, continuously connected devices and platform-based environments, making children's digital activity progressively less embedded in directly observable shared household media use. Parental mediation theory therefore needs to account not only for children's age and autonomy, but also for the changing affordances and visibility of the environments in which that autonomy is exercised. Against this background, the shift towards earlier personal-device acquisition and widespread social-media participation below platform age thresholds intersects with a pronounced age gradient in parent-enacted mediation, with this convergence becoming particularly visible around the transition to early adolescence. In this construct, "protection" does not denote a demonstrated protective effect of parental mediation, but the layer of parental guidance, supervision, rule-setting, and communication that may accompany children's increasingly autonomous digital participation. The present cross-sectional data do not demonstrate a within-person withdrawal of parental mediation as children grow older, nor do they establish that the observed mismatch itself produces heightened vulnerability. The early adolescent protection gap is therefore best understood as an integrative, population-level descriptive configuration emerging from the present findings and as a theoretical proposition for future longitudinal testing. As such, it also generates testable expectations concerning whether mismatches between increasing digital autonomy and diminishing parental guidance are associated with subsequent outcomes, and whether developmentally adapted parental involvement modifies these relationships during the transition to adolescence. The construct may therefore provide a useful basis for comparative research in other Central and Eastern European contexts as well.

A fifth theoretical contribution concerns the dominant conceptualisation of parental mediation as a gatekeeping function that delays or restricts children's access to digital environments. The present findings complicate this model: for each of the four mediation strategies examined individually, children whose parents currently reported applying the strategy also reported an earlier age of first personal-device ownership and an earlier age of first social-media registration than children whose parents did not report that strategy. A corresponding pattern was observed across the mediation profiles, with children in the passive profile reporting the latest and those in the all-rounder profile the earliest digital entry. These cross-sectional associations do not establish that parental mediation causes earlier entry. Indeed, cohort composition accounts for part of the device-age profile difference: after adjustment to period-specific norms, children in the passive profile differed only marginally from the expected age of device acquisition (+0.07 years), whereas children in the all-rounder profile retained an earlier-than-expected difference (−0.56 years). No equivalent norm-adjusted analysis was available for social-media registration. Nevertheless, the recurring direction of the associations does not fit a simple model in which greater current parental mediation is necessarily associated with later digital access. Instead, it is compatible with the scaffolded-onboarding interpretation developed in Chapter 6: in some families, relatively early digital entry and sustained parental involvement may form part of the same broader approach to digital parenting. This proposed construct shifts theoretical attention from delay alone towards accompaniment, co-navigation, and developmentally responsive scaffolding. Models that centre "accompaniment," "co-navigation," and developmental scaffolding may turn out to capture the empirically observed pattern more realistically. Two additional qualifications are important. First, mediation was measured at the time of the survey rather than at the point of digital entry, so the analyses cannot establish whether the currently reported practices were already present when the child first acquired a personal device or registered on social media. Second, the age-at-entry analyses necessarily include only children for whom the relevant entry event had already occurred; children who had not yet acquired a personal device or registered on social media are therefore absent from the corresponding analytical samples. Scaffolded onboarding should consequently be understood as a theoretical interpretation generated by the observed pattern rather than as a directly observed longitudinal process.

Sixth, the coexistence of rising and broadly distributed parental concern, non-increasing perceived capacity to support children in managing online risks, and increasing technical

restriction raises a further theoretical question concerning how risk perception and mediation choices may interact. The exceptionally high internal consistency of the parental-concern items ($\alpha = .975$) indicates that the measured concerns are very strongly interrelated, but does not by itself demonstrate that they constitute a single undifferentiated psychological dimension. The pattern is nevertheless compatible with theoretical accounts of broad or affectively structured risk perception discussed by Helsper et al. (2025), Livingstone and Blum-Ross (2020), and Slovic and Peters (2006). Technical controls may be particularly attractive when online risks appear difficult to evaluate or manage, but the present analyses do not test whether parental concern or perceived efficacy leads parents to adopt technical restriction. The coexistence of these trends should therefore be treated as a hypothesis-generating configuration that motivates future research on the interplay between risk perception, parental self-efficacy, and mediation-strategy choice.

Seventh, the disclosure findings extend the theoretical scope of parental mediation beyond the prevention of risk exposure. Among children who had experienced at least one negative online event, all four forms of parental mediation were positively associated with disclosure to parents, with a particularly pronounced ordered association across the mediation profiles. These associations do not establish the relational mechanism underlying disclosure or its causal direction. They are nevertheless compatible with a broader conceptualisation in which parental mediation may remain relevant after risk exposure has already occurred, by forming part of the context in which children cope with adverse experiences and decide whether to seek parental support. This distinction suggests that theoretical models of digital parenting should more explicitly incorporate post-harm coping, disclosure, and help-seeking alongside access regulation and risk prevention.

Finally, the findings indicate that parental mediation is socially structured rather than solely a matter of individual parenting preference. After adjustment for child age, higher parental education remained associated with a greater likelihood of applying all three parent-enacted mediation strategies. Technical restriction also displayed a clear bivariate education gradient, although this association was not adjusted for child age or other family characteristics. These patterns suggest that theoretical accounts of digital parenting should situate parental mediation repertoires within the unequal social, educational, and material resources available to families rather than conceptualising strategy choice exclusively at the level of individual parental attitudes or preferences.

Taken together, these implications point towards a broader theoretical understanding of digital parenting as a developmentally adaptive process of accompaniment rather than as a fixed hierarchy of control strategies: one that may encompass preparation before digital entry, guidance as children become increasingly autonomous participants in digital environments, and support when adverse experiences have already occurred.

7.2 Policy implications

The findings generate several actionable policy recommendations. First, they suggest that interventions should not merely promote the use of parental control tools but should more actively support parents in developing and maintaining the communicative and media-literate competencies needed for active mediation and digital parenting. This is particularly important before and during the transition around ages 10–12, when personal device ownership and social media participation become increasingly common while parent-enacted mediation is substantially less prevalent among older age groups. Policy responses such as age verification, platform-level restrictions, and parental-control applications are important components of a wider safeguarding repertoire, but they should not be treated as stand-alone substitutes for parental guidance, communication, and developmentally responsive involvement. The population-level increase in technical restriction observed between 2020 and 2025 further underlines the importance of ensuring that technological safeguards are embedded within, rather than isolated from, a broader parental mediation repertoire.

Second, the findings point to a need for parenting support programmes to move beyond generic digital safety messaging and towards differentiated, strategy-specific guidance. The coexistence of high parental trust in children's digital competence, broad and increasing concern about online risks, and only moderate perceived capacity to support children in managing those risks suggests value in helping parents differentiate among types of online risk, understand their potential consequences, and identify appropriate responses. Such risk-differentiated guidance may enable parents to respond more selectively and confidently than generic online-safety messages alone. In the Hungarian context, initiatives led by the National Media and Infocommunications Authority—including freely available educational materials for parents, public campaigns addressing specific aspects of digital parenting (such as the "Mobil a családom?!"), improvised theatre performances combined with expert discussions, and the gyerekaneten.hu portal (Nemzeti Média- és Hírközlési Hatóság, n.d.),

designed to help parents better understand and discuss the online environments in which their children spend much of their free time—represent important steps in this direction. However, the present findings suggest value in a more sustained and coordinated support infrastructure that integrates technical, communicative, educational, and media-literacy approaches to digital parenting.

Third, the sociodemographic gradient in the use of mediation strategies deserves explicit attention in the policy discussion. After adjustment for child age, parental education remained significantly associated with all three parent-enacted strategies—restriction, monitoring, and active mediation—with the largest education-related difference observed for active mediation. Technical restriction was not education-neutral either: in the bivariate analysis, the proportion of parents using at least one technical restriction increased from 34.8% in the lowest educational group to 64.5% among tertiary-educated parents. These findings suggest that the resources and practices associated with digital parenting are socially stratified across both parent-enacted and technical forms of mediation. Technical tools therefore cannot be assumed to compensate automatically for inequalities in families' digital-parenting resources. Equity-focused policy design should emphasise accessible parenting support that reaches families across educational backgrounds, with particular attention to groups that may have fewer opportunities or resources for sustained digital-parenting support, for example through school-based outreach, universal digital and media-literacy programmes, and accessible family support services.

Fourth, the data on the timing of children's digital entry suggest that policies targeting children at, or rather before, the point of their first personal device or first social media registration (which takes place typically around ages 9–11) may be more effective than those directed at older adolescents. This is particularly important before and during the transition around ages 10–12, where the convergence of increasing digital autonomy and lower levels of parent-enacted mediation among older age groups gives rise to what this dissertation conceptualises as the early adolescent protection gap. School-based media- and digital-literacy programmes and parenting support initiatives that specifically target this transitional period would therefore be strategically well placed to address the early adolescent protection gap identified in this study.

In the Hungarian context, this points to the importance of granting media literacy a more explicit and dedicated place within formal education from an earlier age. At present, the

subject of "Mozgóképkultúra és médiaismeret"—which in any case covers only part of what contemporary media literacy entails—has only a limited dedicated compulsory curricular presence: under the current National Core Curriculum (Nemzeti Alaptanterv, Nat), it is one of two compulsory-choice subjects in Grade 12, with one lesson per week (5/2020. (I. 31.) Korm. rendelet, 2020). Digital competence is formally embedded as a cross-curricular general competence and is also addressed through the "Digitális kultúra" subject; however, digital competence and media literacy should not be treated as interchangeable, particularly with regard to the critical evaluation of information and media content, credibility, and the broader social dimensions of media use (Szőke-Milinte, 2020). Hungarian scholarship has also pointed to gaps between curricular ambitions and their consistent implementation in school practice, including limited emphasis on the development of conscious and critical media use (Kiss & Segesdi, 2020; Lannert & Hartai, 2021; Szőke-Milinte, 2020). As long as opportunities for explicit media-literacy education remain limited and uneven, systematic preparation for children's increasingly early digital entry is constrained. The relevance of beginning this development early has also been recognised in previous Hungarian media-education scholarship, which situates the development of reflective and critical media use—including attention to media habits, credibility, intentions, and the relationship between media representations and reality—already in the primary-school years (Szőke-Milinte, 2020). A more sustained, age-appropriate, and curriculum-integrated approach to media literacy from the primary-school years onwards would therefore support children not only in using digital media competently, but also in evaluating information, persuasive and commercial influences, platform environments, and online interactions critically, responsibly, and reflectively.

Fifth, the rising prevalence of sub-minimum-age social media registration—with 31% of 7–12-year-olds already having their own social media profile despite the 13-year minimum age applied by major platforms—points to the limitations of platform-level age gating as a stand-alone policy instrument. The present data do not establish that parents facilitated these under-age registrations, nor does the association between current parental mediation and earlier reported social-media entry reveal how, or with whose involvement, the registration originally occurred. What the findings do show is that formal age thresholds alone do not prevent substantial levels of below-threshold participation. Policy approaches should therefore avoid treating age-gating mechanisms as sufficient safeguards in isolation and

should consider them within a broader system of platform responsibility, age-appropriate education, and parental support.

Sixth, the findings indicate that online-safety policy should address not only the prevention of risk exposure but also what happens after a negative online experience has occurred. Among children reporting an adverse online experience, 32% reported taking no action and telling no one, only around three in ten disclosed the experience to a parent, and formal routes of support or reporting were used infrequently. At the same time, all four forms of parental mediation were positively associated with parental disclosure among children who had experienced a negative event, although these bivariate associations do not establish causality or the mechanism through which disclosure occurs. These findings support treating coping, disclosure, help-seeking, and access to support as policy outcomes in their own right. Digital-safety education should therefore help children not only recognise and avoid risks, but also know what to do, whom to approach, and how to access appropriate support when something harmful or distressing has already happened. This requires clear and accessible pathways to trusted adults, school-based support, platform reporting mechanisms, and specialised services, alongside efforts to strengthen children's confidence in seeking help.

7.3 Practice implications

At the practice level, the findings have direct implications for family support professionals, school counsellors, paediatricians, and practitioners who design digital well-being programmes for children. Technical tools may form a useful part of digital parenting, but practitioners should avoid presenting them as sufficient substitutes for the broader parental guidance, rule-setting, communication, and involvement within which they are used. The behavioural data from the friend-request scenario provide a concrete illustration of the potential relevance of specific family practices: among children whose parents reported having a rule that the child should not make contact with strangers without the parent's knowledge, approximately 3% reported that they would usually accept an online friend request from someone they did not know, compared with approximately 17% where no such parent-reported rule was present. Children were also more likely to report that they would consult a parent when such a rule was reported. These bivariate associations do not demonstrate that the rule itself caused the child's response, but they suggest that practitioners working with families may benefit from translating general digital-safety advice into concrete, behaviour-specific family practices and expectations.

A further practical implication concerns the tendency to frame children's digital well-being primarily in terms of screen-time duration. For paediatricians, counsellors, educators, and family-support professionals, the findings reinforce the value of considering not only how long children spend online, but also what they do, in which environments, with whom, and with what consequences for their everyday functioning. Practical guidance may therefore be more informative when questions about duration are complemented by attention to content, context, social interaction, developmental stage, and the broader pattern of the child's digital life.

The coping findings reported in Section 5.2.3 and the disclosure analyses in Section 5.5.8 provide a further behavioural benchmark with direct practical significance. Among children who had experienced at least one negative online event, parental disclosure was more common when each of the four forms of parental mediation was reported than when the respective strategy was absent. The mediation-profile analysis showed an especially pronounced gradient, with parental disclosure increasing from 17.7% in the passive profile to 28.7% in the intermediate profile and 61.5% in the all-rounder profile. These associations do not establish that parental mediation causes disclosure or identify the relational mechanisms through which the association operates. Nevertheless, the findings reframe the practical goal of parental mediation: in addition to seeking to reduce risk exposure, it is at least as important to ensure that, when a negative experience does occur, children have an accessible and trusted adult to whom they can turn. Programmes aimed at supporting digital parenting may therefore seek to strengthen trust, non-judgmental communication, and emotional availability, alongside more specific mediation practices. The 32% of children who reported taking no action and telling no one after a negative online experience represents a direct and measurable practice target: reducing this proportion should be an explicit aim of both parenting support programmes and school-based digital safety education. Such programmes should prepare children not only to recognise and avoid online risks, but also to know what to do after an adverse experience, whom they can approach, and how to use available forms of support, including parental or other trusted-adult help and appropriate reporting mechanisms.

Finally, the age-related pattern in parental mediation suggests that practitioners should frame continued parental involvement in early adolescence not as incompatible with children's developing autonomy, but as something that can itself adapt as autonomy increases. The early adolescent protection gap conceptualised in this dissertation draws attention to the

convergence, particularly around the transition to early adolescence, of expanding personal and autonomous digital participation with substantially lower prevalence of parent-enacted mediation among older age groups. This does not imply that parents should maintain the same forms or intensity of control as children grow older. Rather, practical support should help parents move towards developmentally responsive forms of guidance in which rules, supervision, communication, and autonomy are progressively renegotiated. Communication-oriented parent-training programmes delivered through schools, primary healthcare settings, or family-support services therefore represent a potentially valuable avenue for practical intervention. Given the social patterning of mediation identified in the dissertation, such support should also be designed to be accessible, low-threshold, and non-stigmatising, rather than presuming equal digital, educational, temporal, or communicative resources across families.

The scaffolded-onboarding interpretation developed in this dissertation suggests a related practical shift: professionals may benefit from helping families ask not only when a child should receive a first personal device or enter social media, but also how that entry will be accompanied. In practice, this may involve discussing expectations before the first device or account is introduced, agreeing on age-appropriate rules and privacy or safety settings, establishing expectations regarding contact with strangers and help-seeking, and revisiting these arrangements as the child's competence and autonomy develop. The present study does not establish that such an approach produces better outcomes, but it provides a practical translation of the broader principle that digital entry can be treated as a process requiring ongoing, developmentally responsive accompaniment rather than as a single gatekeeping decision. The goal is to ensure that children's expanding digital lives are accompanied by an adult presence that remains available and responsive when guidance is needed and, especially, when something goes wrong.

7.4 Methodological implications

The secondary analysis conducted in this dissertation also yields methodological implications for the continued development of large-scale digital-parenting research and, more specifically, for future waves of the NMHH *Digital Parenting Research* series. One of the broader lessons of the study is that secondary analysis can serve not only to extract additional findings from an existing dataset but also as a form of methodological feedback to the research programme that generated it. By testing relationships that were not central to

the original descriptive reports, the dissertation has revealed both underused strengths of the existing design and measurement boundaries that could be addressed in subsequent waves. In this sense, the analytical relationship between the institutional research series and the doctoral study is reciprocal: the research series provides the empirical infrastructure for the dissertation, while the secondary analysis can in turn inform the refinement of questionnaire design, measurement strategy, and analytical planning in future data collections.

Some of the analyses relating parental mediation to the timing of digital entry necessarily included only children who had already crossed the relevant threshold (for example, those already using digital media or those who had already registered on social media). As a result, families in which children had not yet crossed the relevant digital-entry threshold were not represented in the corresponding analytical samples. This is not merely a technical issue, because non-entry or delayed entry may itself be a substantively meaningful outcome and may be related to parental gatekeeping as well as to other child-, family-, or contextual factors. In future survey waves, parental questions concerning gatekeeping, rules, expectations, and mediation should therefore, wherever conceptually appropriate, be administered independently of the child's current level of digital participation. Response options and routing structures should also allow deliberate non-entry or delayed entry to be recorded explicitly rather than treating the absence of device ownership or platform registration simply as ineligibility for subsequent questions.

A second implication concerns the temporal alignment of parental-mediation measures with children's digital-entry histories. In the present study, parental mediation was measured at the time of the survey, whereas first device ownership and first social-media registration may have occurred several years earlier. The data therefore cannot establish which mediation practices were actually in place when the child first entered these digital environments. Future waves could reduce this ambiguity by incorporating event-specific retrospective questions (for example, asking what rules, discussions, supervision, or technical measures accompanied the acquisition of the child's first personal device or first social-media account). A prospective design would be methodologically stronger still, but even within a repeated cross-sectional monitoring programme, greater temporal correspondence between entry events and parental practices would substantially improve the capacity to distinguish delayed access, unaccompanied entry, and forms of scaffolded onboarding.

A third implication concerns the analytical potential of the matched parent–child design. The dissertation demonstrates that linking the responses of each child to those of the corresponding parent enables forms of analysis that cannot be obtained from parallel but independent parent and child samples, including within-family correspondences, discrepancies, and associations between parent-reported practices and child-reported experiences or responses. This potential had been only partially exploited in the original descriptive reporting and constituted one of the motivations for the present secondary analysis. Future questionnaire development could build on this strength more deliberately by designing parallel or complementary parent–child items around the same behaviours, situations, and reference periods. In addition to parent-reported mediation, selected child-reported perceptions of parental practices could be included, allowing future analyses to examine not only what parents report doing but also whether and how those practices are perceived by their children.

A fourth implication concerns measurement granularity. The current mediation indicators primarily identify whether particular strategies are present, but they provide less information about their frequency, intensity, quality, or style. As acknowledged in the limitations, this constrains the ability to distinguish, for example, occasional from sustained mediation or dialogical and autonomy-supportive restriction from controlling or punitive implementation. Future waves would therefore benefit from retaining the existing strategy indicators for comparability while supplementing them with measures of how often and in what manner mediation is enacted. Similar refinement could strengthen the operationalisation of parental digital self-efficacy, which in the present study is represented through relevant questionnaire items rather than a dedicated validated multi-item scale. Children's critical media literacy would likewise be more rigorously examined if self-reported attitudes and credibility judgements were complemented, where feasible, by performance-based measures. Finally, the distinction developed throughout the dissertation between risk exposure, experienced harm, coping, disclosure, and help-seeking suggests value in maintaining these as analytically separate stages rather than combining them into broad measures of "online risk".

At the same time, these recommendations need to be considered within the practical constraints of large-scale survey research. Greater measurement depth inevitably competes with interview duration and respondent burden, and substantial questionnaire expansion may affect willingness to participate, attentiveness, and the quality of responses. Future refinement should therefore balance analytical ambition against fieldwork feasibility,

respondent burden, and the need to preserve cross-wave comparability. Prioritisation, rotating or modular question blocks, and the periodic inclusion of more detailed measures may offer ways of increasing analytical depth without substantially expanding the core questionnaire in every wave.

Taken together, these implications demonstrate that one of the methodological contributions of the dissertation lies not only in exploiting the existing dataset more fully, but also in identifying how an established national monitoring programme can evolve in response to the analytical questions generated by its own data. The continued development of the NMHH *Digital Parenting Research* series therefore offers an opportunity to combine continuity with methodological learning: preserving the nationally representative, repeated cross-sectional and matched parent–child foundations that make the dataset distinctive, while progressively refining its measures and questionnaire architecture in light of the insights generated by secondary analysis.

8. CONCLUSION

This dissertation set out to provide a comprehensive, nationally representative account of digital parenting and children's media use in Hungary, in a Central and Eastern European context that has received limited scholarly attention in the international digital parenting literature. Drawing on the secondary analysis of three waves of data from the *Digital Parenting Research* series (2017, 2020, 2024/25), centred primarily on the 2024/25 wave and incorporating earlier-wave data where directly comparable indicators were available, each comprising 2,000 parent–child dyads (N = 4,000) interviewed face-to-face (with CAPI used from 2020 onwards), the study examined five research questions concerning children's digital media lives, their digital attitudes and online risk experiences, parental attitudes and risk perceptions, the prevalence and population-level change across survey waves of four parental mediation strategies, and the associations between those strategies and children's digital outcomes across eight child-related outcomes.

The findings concerning children's changing digital media lives (RQ1)—summarised in Section 5.6 and discussed in Section 6—document a rapidly transforming digital ecology in which children acquire personal mobile phones at increasingly early ages (average: 9.39 years in 2025), register for social media platforms well below official age thresholds (average: 10.89 years), and spend growing amounts of time in digital environments that are increasingly personal, portable, and less directly observable to parents. Weekend leisure screen time has increased substantially—from 182 minutes in 2020 to 208 minutes in 2025—with a particularly pronounced increase among the youngest cohorts.

A second set of findings, concerning children's digital attitudes, problematic internet use, and adverse online experiences (RQ2), reveals a predominantly positive orientation towards the digital environment that substantially exceeds children's perception of associated risks, while their source-credibility judgements raise important questions about critical evaluation: among 11–16-year-olds, 68% regarded information encountered on social media as mostly or almost always true. PIU-consistent experiences also showed a pronounced age gradient, becoming increasingly common across the older age groups. The urgency of these patterns is underscored by the finding that 72% of children who reported one of the examined online risks experienced it as genuinely harmful, yet 32% of children reported taking no action and telling no one. Only around 30% reported turning to their parents for help.

Turning to the parental side of the digital environment, the findings on parents' attitudes, perceived capacities, and risk concerns (RQ3) reveal a complex configuration in which broadly positive attitudes towards the digital environment and high trust in children's online competence coexist with non-increasing parental perceptions of their own capacity to support children in managing online risks, a narrowing perceived generational competence gap, and rising, strongly interconnected parental risk concerns.

Against this attitudinal backdrop, the findings on parental mediation practices and their population-level change across survey waves (RQ4) document a structural shift in parental mediation strategies: all three parent-enacted strategies—restriction, monitoring, and active mediation—have declined between 2020 and 2025, although the decrease in monitoring was not statistically significant, while technical restriction is the only strategy that has increased, and substantially so (from 38% to 53%). The steep age gradient across all three parent-enacted mediation strategies coincides with the developmental window in which most children acquire personal devices and enter social media platforms, forming the empirical configuration that this dissertation conceptualises as the early adolescent protection gap, most clearly visible around ages 10–12 in the present Hungarian data.

Moving from the prevalence of mediation strategies to their associations with children's digital outcomes (RQ5), the analyses show that parent-enacted mediation was more consistently associated with favourable child-related outcomes than technical restriction, although the pattern varied across domains. Taken together, the findings reveal a broad contrast between direct parental involvement and technologically delegated control: the former was more consistently associated with lower levels of problematic use and other favourable outcomes, whereas technical restriction showed comparatively limited and less consistent associations. This pattern suggests that technological tools may be most appropriately understood as complements to, rather than substitutes for, direct parental engagement. Because the analyses are exploratory and predominantly unadjusted, however, these associations should not be interpreted as independent or causal effects. Active mediation, monitoring, and restriction were each associated with lower leisure screen time and fewer PIU-consistent experiences, while active mediation showed the most consistently favourable pattern across the three broader adverse-online-experience indicators. At the same time, for each of the four mediation strategies, children whose parents currently reported the strategy also reported earlier first personal-device ownership and earlier first social-media registration than children whose parents did not report it, with the same

direction evident across the mediation profiles. This recurring pattern challenges the simple expectation that broader parental mediation is necessarily associated with later digital entry and provides the empirical basis for the scaffolded-onboarding interpretation developed in Chapter 6: in some families, relatively early digital entry may be accompanied by sustained parental involvement rather than managed primarily through delay.

Across all four mediation strategies, parental disclosure was substantially more common when the strategy was present, and across the mediation profiles it increased from 17.7% among children of passive parents to 61.5% among children of all-rounder parents. One of the clearest patterns in the RQ5 analyses therefore emerged not only in relation to risk exposure, but in what happened after a negative experience had already occurred. The behavioural evidence from the friend-request scenario also demonstrates a strong association between a specific parent-reported rule concerning contact with strangers and children's reported usual responses: only 3% of children whose parent reported such a rule said that they usually accepted a stranger's friend request, compared with 17% of children for whom no such rule was reported; 32% versus 14%, respectively, reported usually consulting a parent. Taken together, these findings shift the central question of digital parenting from how children can simply be kept away from digital risks towards how their increasingly autonomous digital participation can be accompanied, supported, and responded to across different stages of childhood. The contributions of the present dissertation to this broader understanding are summarised in the following section.

8.1 Novelties of the research

The contributions of this dissertation to the study of digital parenting are of three kinds: empirical and contextual, methodological, and theoretical-conceptual. At the empirical and contextual level, the research series analysed in this dissertation provides large-scale, nationally representative evidence on digital parenting and children's media lives from a Central and Eastern European setting that remains substantially underrepresented in the international evidence base. While prior Hungarian work has been dispersed across age groups and disciplinary traditions, and the most detailed accounts of everyday mediation have rather been qualitative and small in scale, this study compares the population-level prevalence of all four mediation strategies across repeated cross-sectional survey waves within a single representative research series and examines their associations with children's outcomes across eight child-related domains. Several of these domains are rarely addressed

in the international literature. Substantively, the multi-wave evidence documents a broader transformation of digital childhood in Hungary: children's digital entry is shifting earlier, while their media environment is becoming increasingly personal, mobile, continuously connected, and platform-centred. A further empirical contribution lies in bringing within the same population-level analytical framework dimensions that are often examined separately: children's digital participation and entry, problematic use, online risk and harm, parental attitudes and concerns, parental mediation practices, and developmental age patterns. The analysis further reveals a complex parental orientation in which high trust in children's online competence and a narrowing perceived generational competence gap coexist with only moderate perceived capacity to support children in managing online risks and with increasingly widespread parental concern. The distinction between risk exposure, experienced harm, coping, and disclosure is particularly consequential: one of the strongest RQ5 patterns emerged not in the prevention of risk exposure, but after a negative experience had occurred, with all four forms of parental mediation positively associated with children's disclosure to parents. This extends the empirical focus of digital-parenting research from whether children encounter online risks to how families respond when those risks result in negative experiences.

At the methodological level, the research design offers several strengths that remain relatively uncommon in survey-based research on digital childhood. It combines three nationally representative repeated cross-sectional waves with matched parent–child samples within each wave and replicated question blocks that enable population-level comparison over time; computer-assisted personal interviewing has been used since 2020. Critically, it reaches a population that survey research seldom includes reliably: children as young as seven and eight, some not yet fully literate, who are among the hardest respondents to recruit and interview. The linkage of each child's responses to those of the corresponding parent within the same household enables within-family comparisons of parent and child reports and associations between parent-reported practices and child-reported behaviours, experiences, and responses. The dissertation further extends the previously published descriptive NMHH findings through a distinct secondary-analytical layer organised around dissertation-specific research questions and including cross-variable and inferential analyses, effect-size estimates, matched parent–child comparisons, multivariable models, reliability analyses, and the supplementary cohort-sensitivity analysis of digital entry. In doing so, it demonstrates analytical possibilities of the matched design that had remained

only partly exploited in the original descriptive reporting. The secondary analysis also produces methodological feedback for the research programme itself, identifying ways in which questionnaire routing, measurement, temporal alignment, and parent–child item design could be refined in future waves while preserving the value of repeated population-level monitoring.

At the theoretical and conceptual level, the dissertation advances several contributions that extend prevailing models of mediation. First, the literature-informed conceptual framework developed in Section 2.8 integrates developmental and contextual conditions, parental dispositional foundations, parental mediation practices, children's digital participation and use, and children's digital experiences, risks, and responses within a common conceptual system. It distinguishes parental dispositions from enacted mediation practices, treats the relational and communicative context as a cross-cutting dimension, retains the distinction between risk, harm, coping, disclosure, and help-seeking, and allows for reciprocal relationships between parental practices and children's digital lives. Its contribution therefore lies not in proposing that these domains are individually novel, but in bringing together strands of scholarship that have often been examined separately into a coherent framework for analysing digital parenting.

Second, the multi-wave findings document a clear population-level reconfiguration of the parental mediation repertoire: all three parent-enacted strategies were less prevalent in 2025 than in 2020—although the decrease in monitoring was not statistically significant—while technical restriction increased markedly. This pattern makes the possible complementarity or substitution between technical and parent-enacted mediation an empirically relevant theoretical question, while the repeated cross-sectional design does not establish individual-level substitution. The RQ5 findings further refine the comparison between these forms of mediation: parent-enacted strategies showed more consistent favourable associations across several child outcomes than technical restriction, yet technical restriction was also positively associated with parental disclosure after negative experiences. The findings therefore challenge both the assumption that all mediation strategies are functionally equivalent and the opposite assumption that technical mediation is inherently ineffective.

It reframes mediation itself: against the dominant gatekeeping model, the data show that greater current parental mediation is consistently associated with earlier, rather than later, retrospectively reported digital entry. The dissertation conceptualises the possibility

suggested by this pattern as scaffolded onboarding: a mode of digital entry in which relatively early access may be accompanied by sustained, developmentally responsive parental guidance, supervision, instruction, and negotiated rule-setting rather than managed primarily through delayed access or exclusion. The present data do not directly observe this process over time, but they provide an empirical pattern from which scaffolded onboarding can be formulated as a testable theoretical construct.

The findings also extend the theoretical relevance of parental mediation beyond risk prevention. By showing particularly pronounced associations between mediation and parental disclosure among children who had already experienced a negative online event, the dissertation directs attention to the possible role of parental involvement in the post-harm stages of coping, disclosure, and support. Finally, the results show that digital parenting practices are socially structured rather than solely individual parenting choices: parental education remained associated with the three parent-enacted strategies after adjustment for child age, while technical restriction also displayed a clear education gradient. This places parental mediation within the broader distribution of social, educational, and digital resources available to families.

Underlying these strands is the dissertation's central conceptual contribution: the early adolescent protection gap. The phenomenon to which it refers is foreshadowed in the international literature—in work on early-adolescent vulnerability, on the risk–harm relationship, and on the measurement of digital parenting—but the dissertation brings these strands together within a single age-linked, empirically testable construct. By identifying the convergence of increasingly early and autonomous digital participation with the substantially lower prevalence of parent-enacted mediation across successive older age groups, particularly around the transition from late childhood to early adolescence, the dissertation conceptualises this configuration as the early adolescent protection gap. The construct is grounded in the present nationally representative Hungarian data, but is formulated as a provisional theoretical proposition rather than as a demonstrated causal developmental mechanism. Its value lies in generating testable expectations about whether and under what conditions a widening mismatch between children's digital autonomy and available parental guidance is associated with subsequent outcomes, and whether developmentally adapted parental involvement may modify these relationships. Together with scaffolded onboarding, the early adolescent protection gap thus provides a basis for a future research agenda concerned not simply with how much parents mediate, but with how

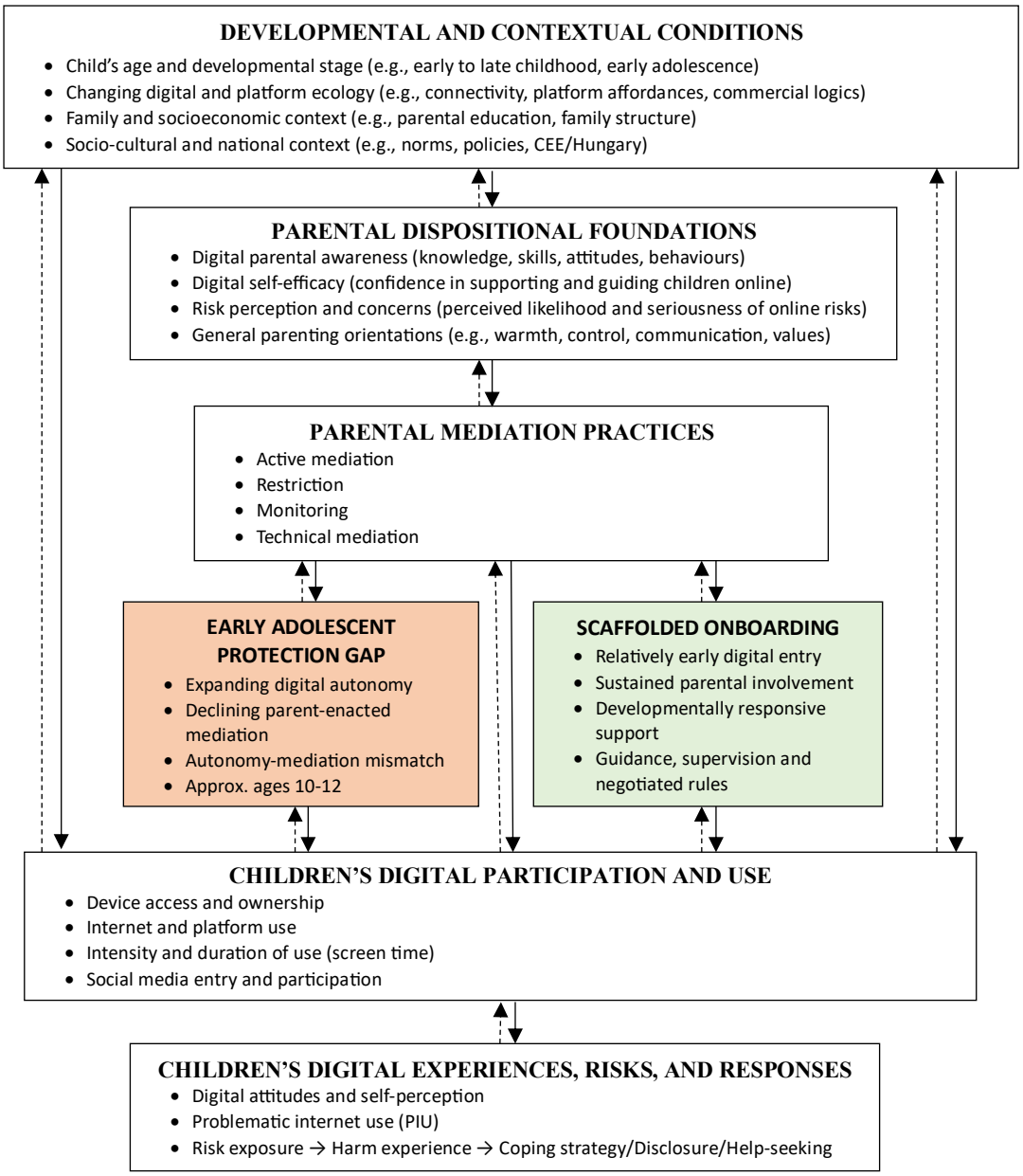
parental guidance can adapt as children enter digital environments earlier and become increasingly autonomous within them.

Taken together, these two constructs also make it possible to return to the literature-informed conceptual framework introduced in Section 2.8. That framework positioned parental mediation practices and children's digital participation and use as distinct but interrelated domains, while allowing for reciprocal relationships between children's increasingly autonomous digital engagement and parental responses. The empirical findings of the present dissertation suggest that the interface between these two domains warrants further conceptual specification. Figure 25 therefore revisits the original framework and positions the early adolescent protection gap and scaffolded onboarding within it as two dissertation-specific integrative contributions emerging from the findings.

As Figure 25 illustrates, the two constructs capture conceptually different configurations at the same interface. The early adolescent protection gap describes a population-level mismatch: children's personal and autonomous digital participation expands across age groups while direct parent-enacted mediation becomes less prevalent. Scaffolded onboarding, by contrast, conceptualises a possible family-level configuration in which expanding digital autonomy is accompanied rather than simply restricted or delayed through sustained and developmentally responsive parental involvement. The two constructs should therefore not be understood as simple opposites or as empirically established pathways. Rather, together they shift attention from the timing of digital access alone to the relationship between children's growing autonomy and the forms of parental accompaniment available as that autonomy develops.

Figure 25

Integration of the dissertation-specific conceptual contributions into the literature-informed conceptual framework



Source: Author's own elaboration of the literature-informed conceptual framework presented in Figure 1

Note: The two highlighted constructs represent dissertation-specific conceptual contributions positioned at the interface between parental mediation practices and children's digital participation and use. The early adolescent protection gap represents an integrative, population-level configuration in which expanding autonomous digital participation coincides with a lower prevalence of parent-enacted mediation across successive age groups, becoming particularly visible around ages 10–12 in the present Hungarian data. Scaffolded onboarding represents a proposed family-level configuration in which relatively early digital entry and expanding autonomy are accompanied by sustained, developmentally responsive parental involvement. Neither construct was directly measured as a composite or longitudinal process. Arrows represent conceptual relationships and organising links and should not be interpreted as demonstrated causal effects. Dashed arrows indicate potentially reciprocal relationships or feedback processes.

8.2 Limitations

While the present dissertation offers substantial evidence on parental mediation and children's digital lives, its conclusions are subject to several important limitations. First, despite the multi-wave design, the repeated cross-sectional structure means that the same individuals are not tracked across waves; consequently, within-person developmental trajectories cannot be directly observed, and causal inferences must be drawn with appropriate caution. The observed temporal shifts in the prevalence of mediation strategies reflect population-level trends rather than individual-level change. This qualification is also important for the early adolescent protection gap: the present data identify a population-level convergence of age-related patterns rather than demonstrating within-person divergence between children's growing digital autonomy and parental mediation over time.

Second, reliance on self-reported data from both parents and children introduces the possibility of social desirability bias, recall bias, and estimation error. The documented discrepancy between child self-reports and parental proxy reports of regular internet use illustrates this concern: in 2025, the overall estimates were 84% and 89%, respectively, while among 7–8-year-olds the corresponding figures were 67% and 74%. These discrepancies should be interpreted as differences between reporting sources rather than as evidence that either source provides an objectively more accurate estimate. Younger children may experience greater difficulty with recall, frequency estimation, or categorising their own media behaviour, while parental proxy reports may themselves be affected by incomplete observation, recall error, and social-desirability bias. Thus, the inclusion of children as young as seven represents an important methodological strength, but also introduces particular measurement challenges when interpreting age-specific self-reports.

Third, the presence of parents during 78% of child interviews, with substantial parental influence reported in 14% of cases, may have affected children's responses, particularly on sensitive topics such as online risk exposure. The procedural mitigation—allowing children to enter responses directly on the CAPI device for the risk module—addresses this concern but does not eliminate it. This concern is particularly acute for RQ5 outcomes concerning online risk exposure, responses to stranger contact, and disclosure following negative online experiences, all of which address sensitive experiences or behaviours and may therefore be especially susceptible to social-desirability effects when a parent is present. A related limitation concerns the parental perspective represented in the survey. One parent or legal

guardian was interviewed in each household, and the adult respondent was most often the child's mother. The parental measures, therefore, capture the practices and perceptions of the participating parent rather than the potentially differing or jointly negotiated mediation practices of multiple caregivers within the household.

Fourth, while the nationally representative design of the research is a significant strength, the findings are specific to the Hungarian context and may not generalise directly to other national settings, even within the Central and Eastern European region. Fifth, the dissertation's descriptive and exploratory design, and particularly the predominantly cross-sectional and unadjusted RQ5 analyses, do not permit causal claims about the relationships between parental mediation strategies and children's outcomes. Reverse directionality remains plausible: parents may adjust their mediation practices in response to children's pre-existing behaviours or experiences rather than parental mediation producing the observed child outcomes. The friend-request association and the mediation–disclosure findings should therefore be interpreted as cross-sectional associations rather than as demonstrated effects of parental practices.

The friend-request measure requires an additional qualification. It captures children's self-reported usual response to a standardised contact-risk situation rather than directly observed behaviour; accordingly, the reported differences should be interpreted as response patterns rather than behavioural outcomes observed in real time. By contrast, the coping and disclosure measures examined in Sections 5.2.3 and 5.5.8 refer to children's reported responses following actual negative online experiences, although these measures likewise remain subject to recall and social-desirability bias.

Moreover, for the RQ5 outcomes relating to the age of first device ownership and the age of first social media registration, cohort composition and sample boundaries introduce additional constraints. Mediation profiles are not evenly distributed across age groups: passive parents are overrepresented among the parents of older adolescents, whose first device acquisition and platform registration typically occurred several years earlier, when later entry was the prevailing national norm. A norm-adjusted reanalysis reported in Section 5.5.1 suggests that a substantial proportion of the raw difference in age of first device ownership between passive and all-rounder profiles can be attributed to such cohort effects, with a smaller residual difference persisting after correction. Accordingly, the finding that greater current parental mediation is associated with earlier, rather than later, retrospectively

reported digital entry should be interpreted partly in light of historical cohort composition. The supplementary analysis reduced, but did not eliminate, the device-age difference across mediation profiles.

A further limitation is that the relevant entry-age analyses necessarily include only children for whom the corresponding entry event had already occurred. Children who had not yet acquired a personal device or registered on social media are absent from the respective analytical samples; families in which parental gatekeeping may have delayed entry beyond the time of the survey are therefore not represented in those analyses. The direction and magnitude of the resulting selection effect cannot be determined from the present data. In addition, parental mediation was measured at the time of the survey rather than at the time of first device acquisition or social-media registration. The data therefore cannot establish whether the mediation practices currently reported by parents were already in place when the child first entered the relevant digital environment. This temporal mismatch is particularly important for the scaffolded-onboarding interpretation, which should therefore be understood as a theoretically informed interpretation of the observed pattern rather than as a directly observed longitudinal process.

In addition to the above, while the matched parent–child design enables within-family linkage of parental and child responses, the mediation measures rely primarily on parental reports; systematic discrepancies between parent and child perceptions of mediation, documented in other studies, could not be examined consistently across the four strategy indicators used in the present analyses. The mediation strategy variables capture the presence or absence of each strategy rather than its frequency, intensity, or quality, limiting the granularity of the reported associations and the possibility of examining potential dose–response patterns between the intensity of parental engagement and child outcomes.

Several other constructs are likewise measured more narrowly than their theoretical counterparts. Parental digital self-efficacy is represented through relevant questionnaire items rather than through a dedicated validated multi-item scale, and children's source-credibility judgements should not be interpreted as a direct performance-based measure of critical media literacy. These operationalisations are appropriate to the available secondary dataset but limit the strength of conclusions that can be drawn about the broader underlying constructs.

A further limitation concerns the analytical specification of the RQ5 analyses. These analyses are predominantly bivariate and unadjusted. Child age is strongly associated both with the prevalence of parental mediation and with several child outcomes, including screen time, problematic internet use, platform use, and online-risk exposure. Accordingly, some of the observed mediation–outcome associations may partly reflect differences in age composition. In addition, because the four mediation strategies frequently co-occur, the strategy-specific analyses do not establish their independent contributions. The findings should therefore be interpreted as exploratory, predominantly unadjusted cross-variable associations rather than as adjusted, independent, causal, or protective effects. Other unmeasured or incompletely measured factors—including family functioning, parental technology use, children's temperament and mental health, household resources, school-level digital education, and broader socialisation or neighbourhood contexts—may also influence both parental mediation and children's outcomes.

Finally, the author's long-standing professional involvement in the development and coordination of the NMHH *Digital Parenting Research* series constitutes both a methodological resource and a potential source of interpretive bias. Familiarity with the questionnaire, the history of the research series, and its institutional context supported informed secondary analysis, but involvement in the original research design and dissemination may also shape the selection and interpretation of analytical questions. As discussed in Section 4.1.1, analytical distance was supported by external fieldwork implementation, explicit separation of previously published descriptive findings from dissertation-specific analyses, retention of non-significant results, and consideration of alternative explanations and methodological limitations.

These limitations should be considered alongside the principal strengths of the research design: large nationally representative samples across three survey waves, direct inclusion of children from age seven onwards, and the matched parent–child structure that allows responses from children to be linked to those of their own parents. Together, these features provide a strong methodological foundation for the descriptive, comparative, and exploratory contributions of the dissertation, while also defining the questions that require more targeted longitudinal and measurement-intensive research in the future.

8.3 Directions for future research

The findings of this study open several avenues for future research. First, further secondary analyses of the present dataset should extend the exploratory bivariate analyses reported under RQ5 through outcome-specific multivariable models. Such models could control, at a minimum, for child age, sex, parental education, and other theoretically relevant covariates. Including all four mediation strategies simultaneously would help distinguish their adjusted associations with child outcomes, while age-by-mediation interactions could examine whether these relationships vary across developmental stages. Further analyses could also assess the robustness of the present findings to alternative operationalisations of mediation profiles and child outcomes.

Second, prospective panel studies that track the same parent–child dyads over time would enable the examination of within-person developmental trajectories and provide a stronger basis for establishing temporal ordering between changes in mediation strategies and changes in children's outcomes. To address the cohort and selection limitations identified in relation to the timing of children's digital entry, such panels should begin before children's first device ownership and social media registration and explicitly include children who are not yet digitally active at baseline. By prospectively following families through the transition into personal device use and social media participation, future research could distinguish historical shifts in national norms from within-family developmental change, examine the directionality of mediation–outcome associations, and model how different configurations of early access and parental mediation relate to children's subsequent digital well-being trajectories. Such designs would also provide the appropriate framework for directly operationalising and testing the early adolescent protection gap by examining whether, at comparable levels of autonomous digital participation, a greater mismatch between expanding digital autonomy and developmentally responsive parental guidance is prospectively associated with less favourable outcomes, and whether continued, appropriately adapted parental involvement modifies these relationships, particularly around the transition to early adolescence. They would likewise allow scaffolded onboarding to be tested prospectively by comparing the subsequent trajectories of children whose relatively early digital entry is accompanied by sustained parental involvement with those of children who enter early without such accompaniment or who enter digital environments later. The detailed testable expectations generated by the early adolescent protection gap are set out in Section 6.2.

Third, mixed-methods designs that combine the population-level representativeness of survey data with the depth and contextual richness of qualitative approaches—such as the family-based interviews employed by Savic (2022) and Kutrovátz (2021, 2022)—would provide a more nuanced understanding of the mechanisms underlying the observed patterns and shifts in parental mediation. Such research could examine how parental concern, perceived capacity, and beliefs about parent–child digital competence relate to mediation choices, while also investigating whether the narrowing perceived generational competence gap observed here reflects changes in objectively assessed competence, changing parental perceptions, or both. The present data establish population-level patterns in these dimensions but do not determine the processes through which they may be connected. Future research could also operationalise digital parental awareness directly using a validated multi-item measure and examine its dimensional structure and relationships with parental mediation practices in families with school-aged children and adolescents. Comparative validation in Hungarian and other Central and Eastern European contexts would be particularly valuable, given that much of the current evidence for the construct derives from cross-sectional studies conducted in a single national context.

Fourth, comparative studies across Central and Eastern European countries would test the generalisability of the Hungarian findings and identify the contextual factors—including post-socialist legacies, regulatory frameworks, and cultural attitudes toward authority and child-rearing—that shape digital parenting practices in the region. Such research could also examine whether the educational and socioeconomic patterning of parental mediation observed in Hungary is reproduced across other CEE settings or varies with national educational, welfare, and digital-policy contexts. Fifth, intervention studies that evaluate the effectiveness of programmes designed to support parents in maintaining developmentally responsive parental involvement during the approximate 10–12-year transition window would translate the present findings into actionable policy recommendations. Sixth, research that directly measures children's media literacy using performance-based assessments rather than self-assessments and self-reports—as recommended by Pyżalski et al. (2023) and following the work of Aczél et al. (2022)—would enable a more rigorous examination of the relationship between parental mediation practices and children's actual media literacy competencies. Such measures would also help determine whether the source-credibility judgements observed in the present study reflect broader differences in critical-evaluative competence or more circumscribed attitudes towards particular information sources.

Seventh, future research should move beyond strategy-type inventories to examine the quality and style of mediation as a potential mechanism linking parental practices to children's digital outcomes. The present dissertation could distinguish whether parents applied active mediation, restriction, monitoring, or technical restriction, but not whether these strategies were enacted in an autonomy-supportive or controlling, dialogical or punitive manner. Longitudinal and mixed-methods designs that combine quantitative prevalence indicators with qualitative or observational measures of communication style, emotional tone, and perceived fairness could clarify whether it is the type of strategy, the manner of its delivery, or their interaction that most strongly predicts children's digital flourishing and vulnerability.

Eighth, given that 32% of children reporting a negative online experience reported taking no action and telling nobody about what had happened, future intervention research should explicitly target help-seeking as a primary outcome rather than treating it as a secondary by-product of general digital safety education. Experimental and quasi-experimental designs that test whether parent-focused communication trainings, school-based programmes, or multi-actor interventions can measurably increase the likelihood that children turn to trusted adults after harmful online experiences would provide the most direct test of whether the strong association between parental mediation and disclosure identified here can be translated into an intervention effect. Future studies could also compare parental, school-based, formal-service, and platform-based support pathways to identify which forms of help children are most likely to access under different circumstances. Embedding such interventions in rigorous evaluation frameworks would also help identify which combinations of parent-enacted strategies, institutional supports, and technical measures are most effective in reducing non-action and non-disclosure following adverse online experiences.

Beyond these specific strands, the directions outlined above converge on a broader shift in perspective: from viewing children's digital lives primarily through the lens of risk and regulation to examining how mediation, policy and pedagogy jointly shape the conditions under which children can exercise agency, develop resilience and flourish online. Future research that takes this wider horizon seriously will need to combine methodological pluralism with closer dialogue between scholarship, policy-making and educational practice. It should also subject the conceptual propositions developed in this dissertation to direct empirical testing, allowing the early adolescent protection gap and scaffolded onboarding to

be supported, refined, delimited, or rejected in light of new evidence. In this sense, the present dissertation should be read not as a definitive account, but as one contribution to an ongoing collective effort to understand and support children's mediated lives. It is to this wider horizon—and to the normative questions it raises—that the closing remarks now turn.

8.4 Closing remarks

"We want our children back," were the words of Kate Winslet at the opening of this dissertation, quoting the actress's speech delivered at the 2023 BAFTA ceremony. The data presented here suggest that the concern behind this plea is reflected in measurable patterns. When one-third of 7–12-year-olds are on social media before they are allowed to do so; when one-third of children who report experiencing online harm take no action and tell no one; and when technical tools are becoming more common while direct parental involvement is decreasing, the question is no longer whether we are losing our children to the digital world, but whether we are still present enough to notice when they need us. Kate Winslet concluded her speech with words addressed to young people: "Please ask for help. There is no shame in admitting that you need support. It will be there—just ask for it" (BAFTA, 2023, 2:48). The evidence from this study suggests that for this promise to be kept, someone must be there to answer. A content filter will not answer. A screen time application will not answer. A present, engaged, and trusted parent can.

The findings show that this presence cannot be taken for granted, and that its restoration must be the central priority of any serious approach to children's digital well-being and mental health. Yet this responsibility cannot be confined to the family alone. Creating a safer, more responsible, empowering, and ethically grounded online—and, by extension, offline—environment for children is a shared societal task. It requires the engagement of parents, teachers and educational institutions, platforms and technology companies, researchers and the scientific community, policymakers and state structures that shape the broader social ecosystem, alongside the everyday practices of citizens themselves. As both the previous literature (e.g., Morawska et al., 2025) underscores and this dissertation indicates, setting good examples through engaged digital parenting and conscious media use remains one of the most powerful mechanisms of digital socialisation. If this dissertation can leave even the smallest child-sized digital footprint in advancing this collective mission, then it has fulfilled its highest purpose.

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APPENDICES

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Additional appendices are provided via a Drive link and include the full survey questionnaire (**Appendix 4**), the 2024/2025 NMHH report (**Appendix 5**), SPSS outputs of the empirical research (**Appendix 6**), and confirmation of the author's role in the *Digital Parenting Research* series (**Appendix 7**). The folder is accessible via the following link: Appendices_Dissertation_VeronikaPelle

Appendix 1: Overview of the research instrument

The original 2024/25 *Digital Parenting Research* instrument consists of separate but linked parent and child questionnaires administered within the same household. Owing to the length of the full questionnaire (45 pages) and restrictions on the reproduction of the original research instrument, the complete questionnaire is not reproduced in the printed dissertation. Instead, this appendix provides a structured overview of the questionnaire blocks. The full questionnaire is provided separately among the electronic appendices (see Appendix 4).

Table 18

Overview of the 2024/2025 parent questionnaire

Questionnaire block	2024/25 item codes	Main content
Household and focal-child selection	CS1–CS2; GYEREK1–GYEREK2	Household composition; identification and demographic characteristics of children living in the household; selection of the focal child
Child educational and family background	B1–B4; UJBIZSZ	School type and grade; perceived academic performance; residential arrangements; perceived closeness and trust in the parent–child relationship
Parent and household socio-demographics	B6–B19	Parent sex, age, relationship to focal child, family structure, education, employment and occupation; household-head characteristics; subjective income position and material circumstances; child's room arrangement
Household media and device environment	B20	Availability of different media and digital devices in the household, whether the focal child has a personal device, and whether household devices are used by the child
Child mobile-phone access	FM1A–FM4	Personal mobile-phone ownership and use; smartphone versus conventional mobile phone; age at which the child acquired a personal mobile phone; availability of mobile internet
Parent perception of child screen use	FP4	Perceived difficulty controlling the child's screen time, perceived balance between screen and non-screen activities, and perceived interference with family life
Household internet access	FN1	Presence of internet access in the home
Parent familiarity with media and technology concepts	UJISM	Prior familiarity with concepts including artificial intelligence, streaming services, podcasts, and simultaneous media use
Parent media-use repertoire	UJFSZ; UJFSZ2	Frequency of traditional and digital media activities, including reading, television, news, streaming, social media, online video, online music, communication and gaming
Parent simultaneous media use and co-use	PAR1; PAR2	Frequency of parallel media consumption and frequency of consuming media together with the focal child
Parent leisure screen time	FP5	Estimated daily non-work-related digital/screen use on weekdays and weekends
Parent social-media use	FN30; FN9; FN31–FN36	Awareness of anonymous platforms; social-media registration; platforms used; frequency; principal platform; privacy settings; typical social-media activities
Sharenting and child privacy	FN37–FN41	Frequency of posting about the child; audience/publicness; consultation with the child and permission-seeking; problems resulting from sharenting; anticipated future concerns
General parent–child communication	UJBESZ1–UJBESZ2	Frequency of discussions about the digital world, school, shared media content, financial matters and behavioural rules; topics of digital conversations including AI, opportunities and online risks
Parent report of child social-media and internet use	FN8; FN10; FN4	Parent knowledge of the child's social-media registration; parent–child connections on social media; frequency of the child's overall digital/online media use
Parental digital attitudes and self-efficacy	FN16	Perceived benefits and dangers of the internet; trust in the child's safe internet use; perceived generational competence differences; perceived capacity to help the child manage online risks; personal online confidence

Presence and organisation of household rules	FN11; UJSZ1–UJSZ4	Presence of rules or restrictions; how rules are established; whether they apply to parents as well as children; perceived compliance by children and parents
Specific restrictive rules	FN12	Rules concerning time, duration, age-inappropriate or violent/sexual content, supervision, contacts with strangers, personal information and images, applications and paid services
Discussions about online risks and safety	FN13–FN14	Whether and how often parents discuss online content, credibility, personal information, strangers, bullying, copyright, malware, inappropriate images and help-seeking
Monitoring and interpersonal mediation behaviours	FN17–FN18	Whether the child's online behaviour is monitored; supervision, discussion before/during/after use, checking browsing history, downloads and social-media activity
Technical mediation	FN19–FN20	Awareness and current or previous use of content filters, screen-time management, safe-search functions, restricted modes, parental controls, app restrictions, location tracking and child streaming profiles
Parent awareness of online incidents	FN25A	Whether the parent has heard about a wide range of online risk incidents affecting the child or the child's peers
Parental risk concerns	FN25B	Degree of concern about contact, content, conduct, privacy, commercial and technical risks, screen time and AI-related risks
Information and support	FN23; FN37B; FN39C	Existing sources of online-safety information; desired additional sources; perceived usefulness of possible educational and support mechanisms
Awareness of NMHH support services	FN40B; FN41B	Awareness of gyerekaneten.hu and the Internet Hotline
Open-ended parental challenge	UJBEF	Parent's perception of the greatest contemporary challenge related to the child's media use

Table 19

Overview of the 2024/2025 child questionnaire

Questionnaire block	2024/25 item codes	Main content
Everyday media-device use	E1–E2	Devices used almost every day and the device that would be missed most
Perceived parent–child relationship	UJBIZGY	Perceived closeness, trust and communicative openness with parents
Traditional media activities	UJGYSZ	Frequency of reading printed and electronic books, newspapers, television and radio
Digital and online media activities	UJGYSZ2	Frequency of online news, streaming, online television/radio, social media, online video, podcasts, music, video calls and online gaming
Simultaneous media use	UJPARGY	Frequency of using more than one medium concurrently
Artificial-intelligence awareness and use	UJMI1–UJMI5	AI awareness, frequency and purposes of use, perceived balance of benefits and disadvantages, and descriptive associations with AI
Overall digital/online media use	GYN1	Overall frequency of digital/online media and internet use
Devices used to access the internet	GYN2–GYN3	Internet-access devices and the device used most frequently
Principal functions of online use	GYN5UJ	Relative importance of communication, entertainment and information/learning
Leisure screen time	GYP5	Estimated minutes spent in the digital/online environment on an average school day and on a weekend or non-school day, excluding school-related use
Digital attitudes and self-perceptions	GYVEL	Perceived benefits and dangers of the internet; online self-presentation; perceived differences between online and offline communication; perceptions of parental internet competence
PIU-consistent experiences	GYFU	Frequency of positive and negative consequences associated with internet/mobile use during the previous year
Perceived credibility of information sources	GYN26UJ	Perceived truthfulness of information from social-media users, influencers, journalists/news outlets, video-sharing platforms and AI-generated sources
Information-search practices	GYKERES1–GYKERES2	Frequency of searching through social media, Google, Wikipedia, video-sharing platforms and AI, and perceived credibility of information found through each route

Sources of online-safety advice	GYN27; GYN27B	Sources from which the child has received online-safety information and sources from which additional information would be desired
Anonymous and interactive online communication	GYN7B; GYN7B22; GYN7C	Use of chat/communication services without registration; identification of such platforms; online games allowing communication between players
Social-media registration and platform use	GYN7; GYN9; GYN10–GYN12	Presence of registered social-media profiles; age at first registration; platforms used; frequency and principal platform
Personal information and privacy	GYN13–GYN13B; GYN35; GYN40	Information disclosed on the main social-media profile; problems arising from disclosure; use of false information; privacy settings
Influencers and online-only contacts	GYN37–GYN38	Number of influencers followed; AI-generated influencer/profile use; online contacts never met in person
Response to strangers' friend requests	GYN39	Usual response to a social-media contact request from a person not previously known offline
Social-media activities	GYN41	Frequency of chatting, reading, sharing, viewing and posting content
Platform safety functions	GYN43	Awareness and use of blocking, reporting and platform-based help functions
Peer-reported adverse experiences	MASOK1	Whether specified adverse online experiences were known to have happened to peers or classmates
Personal adverse online experiences	Z1 and age-appropriate subsequent sensitive modules	Personal experience of contact-, conduct-, sexual/privacy- and other online risks during the previous year
Subjective impact of adverse experiences	KZ3	Emotional reactions to the reported adverse experiences, including the possibility that they caused no negative feeling
Coping, help-seeking and disclosure	KZ4	Actions taken after adverse online experiences, including informal and formal help-seeking, technical responses, disclosure to parents or others, inaction and non-disclosure

Appendix 2: Delimitation of the dissertation-specific secondary analysis and overview of analytical procedures

This appendix provides a consolidated overview of how the present dissertation builds on and extends the primary descriptive reporting of the NMHH *Digital Parenting Research* series. Table 20 summarises the overall distinction between the primary NMHH reporting and the dissertation-specific research framework and analysis. Table 21 specifies, for each research question, which findings had previously been reported and which additional analyses were conducted for the dissertation, together with their dissertation-specific analytical contribution. These tables are intended to make transparent the provenance of the reported findings and the scope of the dissertation-specific secondary analytical contribution.

Table 20

Comparison of the primary NMHH research reporting and the dissertation-specific research framework and analysis

DIMENSION	PRIMARY NMHH REPORT	PRESENT DISSERTATION
Literature review	-	Entirely new
Research questions	It was not an objective	All the 5 RQs entirely new
Logic of the presentation of results	Linear presentation of results of the single questions of the questionnaire (in thematic blocks)	Driven by the RQs
Format	PPT (graphs with short graph explanations)	Complex scientific work with RQs, theoretical background, interpretation and implications
Results	Only results related to the dissertation's RQ1-RQ4, and only graphs with short graph explanations (without further interpretation) RQ5 and its results (except 5.7.7) are missing	RQ1-RQ4: reanalysed and interpreted (completed with inferential analyses) RQ5: completely new results (except 5.5.7) RQ1-RQ5: new correlations, embedded in the context of the topic, interpreted in the light of the literature, synthesised, discussed, implications drawn
Analyses	Descriptive (e.g., frequencies, percentages, means) and time trends	Descriptive and inferential
Discussion	-	Entirely new synthesis and interpretations
Implications	-	Entirely new (theory, policy, practice, research)
Conclusions	-	Entirely new (new empirical results, correlations and theoretical concepts)

Table 21

Dissertation-specific analytical contributions by research question

Research domain	Findings previously reported in the NMHH research report	Additional analyses conducted for the dissertation	Independent doctoral contribution
RQ1: Children's digital media use and social media presence	Weighted descriptive distributions, age-group patterns, and cross-wave trends in device access, internet use, screen time, and social media registration	Inferential tests of subgroup and wave differences; effect-size estimation; paired parent–child comparisons; within-dyad screen-time correlations	Scientific evaluation of population-level trends and dyadic discrepancies, including the family-level patterning of screen time and digital access
RQ2: Digital attitudes, PIU, and adverse online experiences	Descriptive prevalence of attitudes, PIU indicators, online risks, experienced harm, emotional responses, and coping behaviour	Inferential age and wave comparisons; integrated analysis of the risk–harm–coping sequence; comparison of reporting perspectives	A theoretically integrated account of how risk exposure, experienced harm, coping, and non-disclosure relate within Hungarian children's digital lives
RQ3: Parental attitudes and risk perceptions	Descriptive means and trends in parental attitudes, self-efficacy, and concern about online risks	Scale construction, reliability analysis, correlations, subgroup comparisons, and inferential trend testing	Independent analysis of the structure and patterning of parental concern, particularly in Section 5.3.2
RQ4: Parental mediation strategies	Descriptive prevalence, age and educational gradients, cross-wave trends, and four parental strategy segments	Inferential comparison of strategy trends; effect sizes; regression models of strategy adoption; alternative profile operationalisation	Identification of the factors independently associated with mediation and a scholarly synthesis of changes in the parental mediation repertoire
RQ5: Mediation and children's outcomes	The component variables were reported separately, but their within-dyad associations were not analysed systematically	Eight sets of cross-variable analyses linking mediation to digital entry, screen time, PIU, adverse experiences, anonymous chat use, stranger-contact responses, and parental disclosure	Population-level dyadic evidence on how parental mediation strategies are associated with children's digital outcomes and help-seeking

Appendix 3: Selected SPSS outputs from the dissertation-specific analyses

This appendix presents selected SPSS outputs from the dissertation-specific secondary analyses as illustrative examples of the statistical procedures reported in the dissertation. Given the volume of the complete analytical output, only a limited selection is reproduced here, while further outputs can be found in the electronic appendices (see Appendix 6).

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
FM2_1 * aktivmed a szulo aktivan medial-e	1436	71,8%	564	28,2%	2000	100,0%
FM2_1 * aktivell a szulo aktivan ellenoriz-e	1436	71,8%	564	28,2%	2000	100,0%
FM2_1 * szabaly a szulo aktivan szabalyoz-e	1436	71,8%	564	28,2%	2000	100,0%
FM2_1 * tech2 a szulo aktivan hasznal-e technikai eszközt	1436	71,8%	564	28,2%	2000	100,0%
FM2_1 * strategia	1436	71,8%	564	28,2%	2000	100,0%

FM2_1 * aktivmed a szulo aktivan medial-e

Report

FM2_1 aktivmed a szulo aktivan medial-e	Mean	N	Std. Deviation
,00 nem	9,67	715	1,895
1,00 igen	9,14	721	2,071
Total	9,40	1436	2,002

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
FM2_1 * aktivmed a szulo aktivan medial-e	Between Groups	(Combined)	100,931	1	100,931	25,615	0,000
	Within Groups		5650,942	1434	3,940		
	Total		5751,873	1435			

a. With fewer than three groups, linearity measures for FM2_1 * aktivmed a szulo aktivan medial-e cannot be computed.

Measures of Association

	Eta	Eta Squared
FM2_1 * aktivmed a szulo aktivan medial-e	0,132	0,018

FM2_1 * aktivell a szulo aktivan ellenoriz-e

Report

FM2_1 aktivell a szulo aktivan ellenoriz-e	Mean	N	Std. Deviation
,00 nem	9,72	741	1,867
1,00 igen	9,06	695	2,084
Total	9,40	1436	2,002

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
FM2_1 * aktivell a szulo aktivan ellenoriz-e	Between Groups	(Combined)	158,435	1	158,435	40,622	0,000
	Within Groups		5593,437	1434	3,900		
	Total		5751,873	1435			

a. With fewer than three groups, linearity measures for FM2_1 * aktivell a szulo aktivan ellenoriz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
FM2_1 * aktivell a szulo aktivan ellenoriz-e	0,166	0,028

FM2_1 * szabaly a szulo aktivan szabalyoz-e

Report

FM2_1 szabaly a szulo aktivan szabalyoz-e	Mean	N	Std. Deviation
,00 nem	9,84	679	1,941
1,00 igen	9,01	757	1,977
Total	9,40	1436	2,002

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
FM2_1 * szabaly a szulo aktivan szabalyoz-e	Between Groups	(Combined)	242,057	1	242,057	63,004	0,000
	Within Groups		5509,816	1434	3,842		
	Total		5751,873	1435			

a. With fewer than three groups, linearity measures for FM2_1 * szabaly a szulo aktivan szabalyoz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
FM2_1 * szabaly a szulo aktivan szabalyoz-e	0,205	0,042

FM2_1 * tech2 a szulo aktivan hasznal-e technikai eszközt

Report

FM2_1 tech2 a szulo aktivan hasznal-e technikai eszközt	Mean	N	Std. Deviation
,00 nem	9,63	868	1,929
1,00 igen	9,05	568	2,063
Total	9,40	1436	2,002

ANOVA Table [a]

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivmed a szulo aktivan medial-e	838	41,9%	1162	58,1%	2000	100,0%
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivell a szulo aktivan ellenoriz-e	838	41,9%	1162	58,1%	2000	100,0%
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * szabaly a szulo aktivan szabalyoz-e	838	41,9%	1162	58,1%	2000	100,0%
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * tech2 a szulo aktivan hasznal-e technikai eszközt	838	41,9%	1162	58,1%	2000	100,0%
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * strategia	838	41,9%	1162	58,1%	2000	100,0%

GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivmed a szulo aktivan medial-e

Report

GYN9 Hány éves korodban léptél be, regisztráltál arra a aktivmed a szulo aktivan medial-e	Mean	N	Std. Deviation
,00 nem	11,10	443	1,827
1,00 igen	10,67	394	2,042
Total	10,89	838	1,942

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivmed a szulo aktivan medial-e	Between Groups	(Combined)	38,506	1	38,506	10,325	0,001
	Within Groups		3117,195	836	3,729		
	Total		3155,701	837			

a. With fewer than three groups, linearity measures for GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivmed a szulo aktivan medial-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivmed a szulo aktivan medial-e	0,110	0,012

GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivell a szulo aktivan ellenoriz-e

Report

GYN9 Hány éves korodban léptél be, regisztráltál arra a			
aktivell a szulo aktivan ellenoriz-e	Mean	N	Std. Deviation
,00 nem	11,16	464	1,803
1,00 igen	10,56	374	2,055
Total	10,89	838	1,942

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivell a szulo aktivan ellenoriz-e	Between Groups	(Combined)	76,138	1	76,138	20,665	0,000
	Within Groups		3079,563	836	3,684		
	Total		3155,701	837			

a. With fewer than three groups, linearity measures for GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivell a szulo aktivan ellenoriz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * aktivell a szulo aktivan ellenoriz-e	0,155	0,024

GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * szabaly a szulo aktivan szabalyoz-e

Report

GYN9 Hány éves korodban léptél be, regisztráltál arra a			
szabaly a szulo aktivan szabalyoz-e	Mean	N	Std. Deviation
,00 nem	11,38	418	1,792
1,00 igen	10,41	420	1,968
Total	10,89	838	1,942

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * szabaly a szulo aktivan szabalyoz-e	Between Groups	(Combined)	193,742	1	193,742	54,672	0,000
	Within Groups		2961,959	836	3,544		
	Total		3155,701	837			

a. With fewer than three groups, linearity measures for GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * szabaly a szulo aktivan szabalyoz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * szabaly a szulo aktivan szabalyoz-e	0,248	0,061

GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * tech2 a szulo aktivan hasznal-e technikai eszközt

Report

GYN9 Hány éves korodban léptél be, regisztráltál arra a			
tech2 a szulo aktivan hasznal-e technikai eszközt	Mean	N	Std. Deviation
,00 nem	11,01	553	1,909
1,00 igen	10,67	284	1,990
Total	10,89	838	1,942

ANOVA Table [a]

			Sum of Squares	df	Mean Square	F	Sig.
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * tech2 a szulo aktivan hasznal-e technikai eszközt	Between Groups	(Combined)	20,759	1	20,759	5,535	0,019
	Within Groups		3134,942	836	3,751		
	Total		3155,701	837			

a. With fewer than three groups, linearity measures for GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * tech2 a szulo aktivan hasznal-e technikai eszközt cannot be computed.

Measures of Association

	Eta	Eta Squared
GYN9 Hány éves korodban léptél be, regisztráltál arra a közösségimédia-oldalra, amelynek legelőször lettél a tagja? * tech2 a szulo aktivan hasznal-e technikai eszközt	0,081	0,007

Case Processing Summary

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivmed a szulo aktivan medial-e	858	66,6%	430	33,4%	1288	100,0%
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivmed a szulo aktivan medial-e	845	65,6%	443	34,4%	1288	100,0%
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivell a szulo aktivan ellenoriz-e	858	66,6%	430	33,4%	1288	100,0%
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivell a szulo aktivan ellenoriz-e	845	65,6%	443	34,4%	1288	100,0%
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * szabaly a szulo aktivan szabalyoz-e	858	66,6%	430	33,4%	1288	100,0%
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * szabaly a szulo aktivan szabalyoz-e	845	65,6%	443	34,4%	1288	100,0%
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * tech2 a szulo aktivan hasznal e technikai eszközt	858	66,6%	430	33,4%	1288	100,0%
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt	845	65,6%	443	34,4%	1288	100,0%
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * strategia	858	66,6%	430	33,4%	1288	100,0%
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * strategia	845	65,6%	443	34,4%	1288	100,0%

GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivmed a szulo

Report

aktivmed a szulo aktivan medial-e		GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET)	GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET)
,00 nem	Mean	131,76	224,36
	N	383	378
	Std. Deviation	84,893	136,093
1,00 igen	Mean	112,28	194,57
	N	474	466
	Std. Deviation	80,260	119,480
Total	Mean	120,98	207,91
	N	858	845
	Std. Deviation	82,882	127,974

ANOVA Table [a,b]

			Sum of Squares	df	Mean Square	F	Sig.
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivmed a szulo aktivan medial-e	Between Groups	(Combined)	80440,556	1	80440,556	11,858	0,001
	Within Groups		5803468,218	856	6783,429		
	Total		5883908,774	857			
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivmed a szulo aktivan medial-e	Between Groups	(Combined)	185403,467	1	185403,467	11,461	0,001
	Within Groups		13630050,522	843	16176,814		
	Total		13815453,989	844			

a. With fewer than three groups, linearity measures for GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivmed a szulo aktivan medial-e cannot be computed.

b. With fewer than three groups, linearity measures for GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivmed a szulo aktivan medial-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivmed a szulo aktivan medial-e	0,117	0,014
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivmed a szulo aktivan medial-e	0,116	0,013

GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivell a szulo aktivan ellenoriz-e

Report

aktivell a szulo aktivan ellenoriz-e		GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET)	GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET)
,00 nem	Mean	131,50	225,08
	N	418	412
	Std. Deviation	82,932	134,285
1,00 igen	Mean	111,00	191,60
	N	440	433
	Std. Deviation	81,683	119,561
Total	Mean	120,98	207,91
	N	858	845
	Std. Deviation	82,882	127,974

ANOVA Table [a,b]

			Sum of Squares	df	Mean Square	F	Sig.
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivell a szulo aktivan ellenoriz-e	Between Groups	(Combined)	90051,661	1	90051,661	13,297	0,000
	Within Groups		5793857,113	856	6772,195		
	Total		5883908,774	857			
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivell a szulo aktivan ellenoriz-e	Between Groups	(Combined)	236630,997	1	236630,997	14,683	0,000
	Within Groups		13578822,992	843	16116,014		
	Total		13815453,989	844			

a. With fewer than three groups, linearity measures for GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivell a szulo aktivan ellenoriz-e cannot be computed.

b. With fewer than three groups, linearity measures for GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivell a szul aktivan ellenoriz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * aktivell a szulo aktivan ellenoriz-e	0,124	0,015
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * aktivell a szulo aktivan ellenoriz-e	0,131	0,017

GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * szabaly a szulo aktivan szabalyoz-e

Report

szabaly a szulo aktivan szabalyoz-e		GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET)	GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET)
,00 nem	Mean	137,77	232,40
	N	363	359
	Std. Deviation	90,223	140,178
1,00 igen	Mean	108,67	189,82
	N	495	486
	Std. Deviation	74,784	114,989
Total	Mean	120,98	207,91
	N	858	845
	Std. Deviation	82,882	127,974

ANOVA Table [a,b]

			Sum of Squares	df	Mean Square	F	Sig.
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * szabaly a szulo aktivan szabalyoz-e	Between Groups	(Combined)	177229,706	1	177229,706	26,570	0,000
	Within Groups		5706679,068	856	6670,296		
	Total		5883908,774	857			
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * szabaly a szulo aktivan szabalyoz-e	Between Groups	(Combined)	374304,333	1	374304,333	23,464	0,000
	Within Groups		13441149,656	843	15952,617		
	Total		13815453,989	844			

a. With fewer than three groups, linearity measures for GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * szabaly a szulo aktivan szabalyoz-e cannot be computed.

b. With fewer than three groups, linearity measures for GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * szabaly a szulo aktivan szabalyoz-e cannot be computed.

Measures of Association

	Eta	Eta Squared
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * szabaly a szulo aktivan szabalyoz-e	0,174	0,030
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * szabaly a szulo aktivan szabalyoz-e	0,165	0,027

GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * tech2 a szulo

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tech2 a szulo aktivan hasznal-e technikai eszközt		GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET)	GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET)
,00 nem	Mean	125,71	212,92
	N	543	537
	Std. Deviation	84,295	130,033
1,00 igen	Mean	112,82	199,17
	N	314	308
	Std. Deviation	79,858	124,021
Total	Mean	120,98	207,91
	N	858	845
	Std. Deviation	82,882	127,974

ANOVA Table [a,b]

			Sum of Squares	df	Mean Square	F	Sig.
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt	Between Groups	(Combined)	33111,069	1	33111,069	4,842	0,028
	Within Groups		5850797,705	856	6838,751		
	Total		5883908,774	857			
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt	Between Groups	(Combined)	37023,178	1	37023,178	2,264	0,133
	Within Groups		13778430,810	843	16352,919		
	Total		13815453,989	844			

a. With fewer than three groups, linearity measures for GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt cannot be computed.

b. With fewer than three groups, linearity measures for GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt cannot be computed.

Measures of Association

	Eta	Eta Squared
GYP5_1_1 kb. mennyi időt töltesz internetezéssel - egy átlagos hétköznap (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt	0,075	0,006
GYP5_1_2 kb. mennyi időt töltesz internetezéssel - hétvégén (szombaton vagy vasárnap) (PERCET) * tech2 a szulo aktivan hasznal-e technikai eszközt	0,052	0,003