universität wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

"Digital Technologies: Equal Potential for All? Unveiling the Interplay between Socioeconomic Status, Active Parental Mediation, Instrumental Device Use and Digital Maturity"

verfasst von / submitted by

Meike Huefnagels, BSc

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Science (MSc)

Wien, 2023 / Vienna, 2023

Studienkennzahl lt. Studienblatt / degree programme code as it appears on the student record sheet:	UA 066 840
Studienrichtung lt. Studienblatt / degree programme as it appears on the student record sheet:	Masterstudium Psychologie UG2002
Betreut von / Supervisor:	Univ.-Prof. Dr. Arnd Florack

The data was collected by Teresa Koch and Franziska Laaber.

Therefore, all the rights belong to them.

Contents

Acknowledgments **4**

Abstract **5**

Introduction **6**

Navigating the Digital World: Exploring Children's Digital Maturity *7*

The relation between socioeconomic status and digital maturity *8*

The relation of Socioeconomic Status, Active Parental Mediation and Digital Maturity *9*

The relation between active parental mediation, instrumental device use and digital maturity *11*

The present Study: The Interplay of all Factors within a Serial Mediation Model *13*

Method **14**

Participants *14*

Procedure *14*

Materials *15*

Socioeconomic status 15

Digital maturity 15

Active parental mediation 16

Instrumental device use 16

Results **17**

Preliminary Analysis *17*

Evaluating Our Hypotheses Using Serial Multiple Mediation *18*

Discussion and future research **21**

SES and digital maturity *21*

The mediating role of active parental mediation *23*

The mediating role of instrumental device use *26*

Relevance **28**

Limitations **29**

References **31**

Appendices **38**

Appendix A: English and German abstract *38*

Englisch Abstract 38

German Abstract 38

Appendix B: Scales *39*

SES-Ladder 39

Active parental mediation 40

Digital maturity scale 41

Instrumental device scale 51

Acknowledgments

I would like to express my sincere gratitude to Univ.-Prof. Dr. Arnd Florack for his guidance and tireless support throughout the process of my Master's thesis. His expertise and mentorship have been instrumental in shaping the quality of my work.

I am also very grateful to Teresa Koch and Franziska Laaber for their help, valuable advice, and constructive criticism, which greatly enhanced the depth and quality of this thesis.

In addition, I thank my family, whose unwavering support has been a source of strength and motivation throughout my academic career.

Finally, I would like to thank all my friends who have enriched my college experience with their stimulating conversations and the countless hours we have spent together. Their friendship and camaraderie have made this academic journey even more rewarding and enjoyable.

Abstract

This study was conducted with the aim of examining different influences on children's development of digital maturity. Digital maturity is defined as "the capabilities and attitudes which enable individuals to use digital technologies in ways which support individual development (growth) and integration into society (adjustment)" (Laaber et al., 2022, S. 2). Given recent research indicating the influence of parental socioeconomic status (SES) on children's technology use, our study primarily focused on its effect on digital maturity. Additionally, we examined the roles of active parental mediation and adolescents' instrumental device use as potential mediators in this context. A total of 258 students and their parents (aged between 12 and 18, 49.2% boys) participated in the online study. The results revealed several key findings: First, there was a positive association between SES and digital maturity, indicating that adolescents from higher socioeconomic backgrounds tended to demonstrate higher levels of digital maturity. Second, contrary to expectations, neither active parental mediation nor adolescents' instrumental device use mediated the relationship between SES and digital maturity. Lastly, a positive correlation was found between adolescents' digital maturity and their instrumental device use. These findings provide valuable insights into the factors that potentially influence the digital maturity of adolescents.

Keywords: digital maturity, social class, parental mediation, instrumental device use, adolescents

Introduction

The ever-present influence of digitization is becoming increasingly prominent in various aspects of our daily lives. Notably, the younger generations, often referred to as "digital natives" owing to their early exposure to digital technologies, are at the forefront of this technological wave (Deutsch & Kuhn, 2019). In fact, 94% of young people in Germany own a smartphone and 72% have a laptop or computer (Feierabend et al., 2021). Over the past decade, teenagers' daily screen time has surged from 138 minutes to 258 minutes, highlighting the pervasive role of technology (Feierabend et al., 2021). It stands to reason that children are profoundly affected by this digital transition (Deutsch & Kuhn, 2019). As in other areas of life, this change brings both upsides, like new social connections (Meng et al., 2017) and better access to information (Cino et al., 2023), as well as downsides, including problems like fatigue (Cao et al., 2011) and the risk of becoming addicted to the internet (Hawai et al., 2019).

This paradigm shift raises the question of how children adapt to digitization and what factors are instrumental in determining whether they harness digital technologies for their benefit or, conversely, encounter the negative aspects of technology. Our study focuses on the concept of digital maturity by Laaber et al. (2022), encompassing ten abilities needed for a healthy and constructive use of digital devices. Further, this study investigates different factors interplaying with children’s digital maturity. The objective is to reveal why certain children experience more significant benefits from technology in terms of digital maturity compared to others. The primary factor influencing digital maturity that we are examining is socioeconomic status, as initial research findings suggest that parental socioeconomic status does play a role in whether children face the challenges or opportunities in the process of digitization (Faltýnková et al., 2020; Janschitz et al., 2022), which may be reflected in their level of digital maturity. Furthermore, we aim to understand the link between SES and digital maturity, specifically by examining its impact on parents' role in shaping adolescents' online behavior. Given the family's central role in child development and adaptation (Bronfenbrenner, 1979, 1986), we investigate whether socioeconomic status influences parental guidance through active mediation. This inquiry centers on whether active parental mediation promotes "instrumental device use," where children view digital devices as tools for various purposes rather than solely as sources of entertainment.

Given the novelty of the concept of digital maturity, no prior studies have incorporated it in this context, making it intriguing to explore how this comprehensive capability may be influenced by different factors investigating not only risks but also opportunities. Therefore,

at its core, the primary contribution of this study is to attain a more profound comprehension of how several abilities, encompassed within the concept of digital maturity, required to thrive in the digital realm are influenced by socioeconomic status, alongside the roles of active parental mediation and instrumental device use. Our research question is therefore as follows: Does socioeconomic status affect children's digital maturity, and if so, is this relationship mediated by active parental mediation and instrumental device use?

Navigating the Digital World: Exploring Children's Digital Maturity

The widespread impact of digitization has become an integral part of our daily lives, especially for children who are growing up in this digital age. Just like many other aspects of life, this digital shift brings both opportunities and risks. Recent research has highlighted the potential benefits of online activities for teenagers, including enhanced connectivity and a sense of belonging as online communities often offer a more inclusive environment compared to high school cliques and school teams (Meng et al., 2017; Crittenden, 2019). Other benefits include information activities such as using the Internet for study and professional purposes, leading to better academic performance, higher social or economic capital (Cino et al., 2023). Although digital technologies offer numerous advantages, they are also associated with risks. For instance, studies have linked intensive media consumption to an unfit lifestyle and obesity (Cao et al., 2011). Moreover, the prevalence of digitalization has had a negative impact on sleep, with research indicating that 56% of individuals aged 14 to 34 believe that stress induced by digital media leads to fatigue (Cao et al., 2011). Furthermore, investigations exploring the relationship between social media use and mental health have revealed noteworthy findings. A systematic review of 11 studies that centered on children and adolescents revealed a modest but statistically significant association between the usage of social media and the presence of symptoms related to depression (McCrae, Gettings, & Purssell, 2017). Additionally, a meta-analysis of 23 studies found a link between excessive Facebook use and emotional stress among teenagers and young adults (Marino et al., 2018).

These studies illustrate that children's utilization of digital devices can yield both favorable and adverse effects on their well-being and development. Given the large body of research investigating various factors related to children's use of digital technology, such as digital literacy (Livingstone & Helsper, 2010), addictive behavior (Hawai et al., 2019; Kim et al., 2021), or social connectivity (Valkenburg & Peter, 2009), it highlights the significance of young individuals cultivating a general form of maturity in their interactions with digital technologies. This maturity is expected to impact all these factors as it encompasses the fundamental skills necessary to navigate the opportunities and risks of technology effectively

and focuses on a child's ability to understand and control his or her actions in various digital contexts (Laaber et al., 2022). In essence, it refers to a child's capacity to understand and manage their online behavior, enabling them to make informed choices regarding when, how, and in what situations digital device usage is either beneficial or harmful. The concept of digital maturity is multifaceted and consists of ten distinct capabilities, as summarized by Laaber et al. (2022, p. 2), which can be grouped into three overarching categories: "the ability to independently and self-determinedly use digital technologies," "the ability to navigate and overcome digital challenges and problem-solving," and "the ability to engage appropriately with others and contribute to society through the use of digital technologies." Therefore, a key determinant that generally encapsulates children's capacity to navigate the advantages and disadvantages of the digital realm could be their level of digital maturity (Laaber et al., 2022). In the forthcoming sections, we will delve into the factors that are anticipated to influence children's development of digital maturity, which constitutes the central focus of our inquiry in this study.

The relation between socioeconomic status and digital maturity

There are significant disparities among young individuals in terms of their initial circumstances, which impede a certain equality of opportunity (Haider & von Stumm, 2022). One key factor influencing their initial conditions is the presence of the constraints imposed by the family's socioeconomic status (SES; Landberg et al., 2019). Family socioeconomic status encompasses a complex set of factors typically associated with income, education, and occupation within a family (Li et al., 2011).

Several lines of arguments suggest that parental SES is a key factor shaping children's technology use and, consequently, is expected to be a key factor influencing their development of digital maturity. First, children with parents who have higher educational levels demonstrate a better mastery in digital skills (Cabello-Hutt et al., 2018; Aesart & Van Braak, 2015; Scherer & Siddiq, 2019). They demonstrate a significantly higher tendency to engage in content creation and utilize the Internet for educational purposes. This observation aligns with another study, which suggests that parents with lower socioeconomic status may be more inclined to permit their children to use technology for leisure purposes, while parents with higher SES backgrounds may encourage their children to use the internet for more productive activities. Engaging in these constructive endeavors appears to be connected with favorable tangible results, such as enhanced academic achievements and a greater accumulation of social or economic resources (Cino et al., 2023). Consequently, children and adolescents from lower socioeconomic backgrounds may potentially miss out on online

opportunities that could enhance their social and economic capital (Zillien & Hargittai, 2009), if they primarily engage in specific types of online activities. Secondly, households with a higher socioeconomic status exhibit lower scores in terms of screen media exposure, a factor that has been linked to enhanced social cognitive abilities, increased self-reliance, and decreased levels of aggression (Xie et al., 2022). Third, socioeconomic status has a significant negative correlation with developing addiction to social networking sites (Sun et al., 2021). Another study also found a significant negative relationship between social status and the likelihood of Internet addiction (Faltýnková et al., 2020).

These several studies indicate that the new generation of adolescents does not form a homogeneous group in terms of their digital skills (Hatlevik & Christophersen, 2013). While some adolescents exhibit a high level of digital competence and internet equipment, others lag behind, with one of the contributing factors being socioeconomic status. As a result, having a low socioeconomic status has been recognized as a factor that increases the likelihood of facing challenges with internet usage and decreases evolving digital competences (Faltýnková et al., 2020). Consequently, social status might reinforce some inequality of opportunity in the use of digital technologies. In our first hypothesis, we examine whether socioeconomic status is positively associated with children’s digital maturity, gaining a deeper and more comprehensive understanding of the role of SES in shaping children's technology capabilities and attitudes.

The relation of Socioeconomic Status, Active Parental Mediation and Digital Maturity

As previously discussed, several lines of argumentation point to the potential significance of socioeconomic status in influencing children's digital maturity (Cabello-Hutt et al., 2018; Scherer & Siddiq, 2019; Sun et al., 2021; Faltýnková et al., 2020). The study at hand raises the additional question of what underlies this relationship and what additional factors therefore relate to digital maturity. One potential mediator is parental behavior, particularly in the form of parental mediation, as the family serves as the child's primary and most immediate environment for development and adjustment (Bronfenbrenner, 1979, 1986). Given this, it seems clear that parental practices play a pivotal role in shaping how children receive, process, and react to online information (Chen & Chang, 2016). Parental Practices include parental mediation encompassing the strategies employed by parents to guide their children's online usage and access (Sonck, Nikken, & de Haan, 2013), with active mediation being recognized as a critical factor in mitigating youth online behaviors and competencies (Sun et al., 2021). It involves meaningful discussions, where parents offer guidance and

explanations, evaluate online content, and demonstrate safe browsing techniques (Chen & Chang, 2016; Nathanson, 2001; Schaan & Melzer, 2015).

Recent research pinpoints that socioeconomic status influences the occurrence of active parental mediation. Parents with higher socioeconomic status tend to have more financial resources and free time to invest in their children compared to parents with lower SES (Chen et al., 2023). As a result, high SES parents typically spend more time with their children, providing them with guidance and instructions (Li et al., 2020). This is in contrast to parents with low SES who exhibit less frequent parent-child communication and offer less parental mediation (Li et al., 2020). One factor that explains these differences may be attributed to the accessibility and availability of computers at home. Families with higher socioeconomic status are more inclined to have access to computers and the internet within their households, setting them apart from families with lower SES (Becker, 2000). Parents with lower levels of education or income tend to exhibit a higher preference for utilizing restrictive mediation compared to parents with higher education and greater wealth (Livingstone et al., 2015; Nikken & Jansz, 2006). On the contrary, parents with higher levels of education demonstrate greater awareness in their mediation practices. Their tendency is to avoid introducing media into their infant's daily routine (Cingel and Krcmar in 2013). Additionally, they show a preference for proactive guidance as opposed to a more controlling approach to mediation, as demonstrated by the findings of Livingstone et al. (2015). Moreover, parents with higher SES tend to be more supportive of their children’s use of digital media (Ren et al., 2022). Additionally, distinctions based on socioeconomic status influence how parents perceive internet-related behaviour. Less wealthy parents, particularly those with limited education and lower incomes, often lack confidence in managing online risks (Nikken & Opree, 2018).

As these studies demonstrate, SES and active parental mediation are likely to be related. But why should active parental mediation be related to digital maturity? Active parental mediation highlights the significance of empowering children to use the internet in a beneficial, healthy, and productive manner, aligning closely with the concept of digital maturity, which supports the exposure to digital technology, rather than exclusively focusing on restricting their internet usage. This fosters specific abilities which align well with those of digital maturity. Firstly, discussions about internet use initiated by parents, which falls under the umbrella of active parental mediation, were associated with higher digital skills (Rodriguez-De-Dios et al., 2018) and internet literacy (Vijayalakshmi et al., 2020) in children. Secondly, engaging in such discussions could potentially enhance children's scepticism (Vijayalakshmi et al., 2020), autonomy (Steinfeld, 2021), and self-regulation

competencies (Chen & Chng, 2016). Thirdly, these discussions can not only better the internet use but can help prevent the risk of problematic internet use (Chen & Shi, 2018; Steinfeld, 2021), as active parental mediation has been shown to significantly mitigate problematic Internet-related behavior in adolescents, such as mobile phone dependency and excessive internet use (Kalmus, Blinka, & O´lafsson, 2015; Fu et al., 2020). Therefore, we assume that digital maturity will be further promoted if parents actively support and guide their children's use of technology instead of shielding them from it completely or not engaging with children's internet use at all.

This study aims to explore whether there is a positive relationship between socioeconomic status and active parental mediation, which forms hypothesis 2. Further, we aim to explore how this association might impact children's digital maturity.

The relation between active parental mediation, instrumental device use and digital maturity

As evidenced, socioeconomic status plays a substantial role in shaping children's internet-related behaviours. Recent studies suggest that this dynamic is influenced in part by how parents manage the use of digital technologies in the form of parental mediation (Chen & Chang, 2016; Rodríguez-de-Dios et al., 2018; Sun et al., 2021; Xie et al., 2022). As already discussed, a few studies show how active parental mediation and digital maturity can be positively related, as they demonstrate how active parental mediation can enhance children's knowledge and abilities of how to use technology to their benefit while avoiding potential risks, aligning with digital maturity.

Further, by educating children about healthy and purposeful usage through active parental mediation, we propose that they can develop an attitude that recognizes digital technologies, such as mobile phones and laptops, as valuable instruments for achieving their objectives and providing support. Further, we assume that this attitude is positively associated with the level of digital maturity, as this attitude focuses on using digital technologies as a beneficial, helpful and supportive tool to achieve one's goals, which is the main goal of digital maturity. This can be searching for information, making new friends, or learning new things. This attitude is referred to in this study as instrumental device use. The idea behind this is that when the intent is to view digital technology as an instrument, the focus lies on its utility for various productive purposes, such as communication, learning, problem-solving, and school-related tasks. It is seen as a means to attain specific goals and increase efficiency. Conversely, when digital technology is seen purely as an entertainment medium, the focus shifts solely to its recreational potential. In this perspective, technology's primary purpose is

to provide pleasure, leisure, and entertainment through activities like gaming, social media, streaming, and other entertainment content, which may not necessarily lead to mature technology use. Several lines of arguments suggest this assumption.

Firstly, by utilizing digital technologies as an instrument, the likelihood of excessive usage should decrease, as one typically stops consuming when the goal is accomplished, aligning with a mature technology use. However, when using digital technology only for entertainment purposes, one becomes easily swept away by algorithms and gets trapped in hours of endless swiping. A study conducted by Özparlak and Karakaya (2022) supports this assumption by highlighting a correlation between Internet addiction and aimless browsing, suggesting that Internet use without a specific purpose can lead to continuous consumption without an endpoint. Adolescents who utilized the internet for academic purposes, such as homework, showed lower scores of internet addiction compared to those who did not engage in such activities. Utilizing the internet for educational tasks has been found to foster learning, preparedness, and motivation (Bråten & Strømsø, 2006).

Secondly, one concept, that is quite similar than instrumental device use, that has already been investigated is active versus passive social media use. Passive engagement with social media contains observing online content without actively interacting or communicating with others. This can include actions like browsing through others' profiles. On the other hand, active use includes activities that enable interactions with users, such as direct communication or broadcasting on social networking sites (Pan et al., 2023; Frison & Eggermont, 2016). Interestingly, researchers discovered that passive engagement with social media was linked to an increase in symptoms of anxiety and depression, while active interaction on social media showed a negative correlation with these same symptoms. These findings highlight the potential impact of different patterns of social media use on mental health (Frison & Eggermont, 2017; Shaw et al., 2015; Thorisdottir et al., 2019).

As the studies show, both parties use digital technology, but in different ways, one with a clear goal, the other just for entertainment. Thus, one important factor associated with a mature use seems to be the attitude adolescents are using digital technology, which this study wants to investigate by the scale of instrumental device use. Attitudes toward digital technology are similar to active versus passive use in that they depend on the intention behind using digital technology as well. Do I use it actively, using it as an instrument in our study, or just passively to kill time, using it as entertainment only in our study? The reason we are investigating the concept of instrumental device use is because it aligns more effectively with the idea of digital maturity. Active and passive use primarily concern how individuals interact

with digital content, while instrumental device use centers on the purpose or intent behind their use of technology. Even when using technology passively, there can still be a purpose behind it. For instance, watching reels to understand how their Instagram feed selectively shows them content from a specific group of users serves an informational purpose.

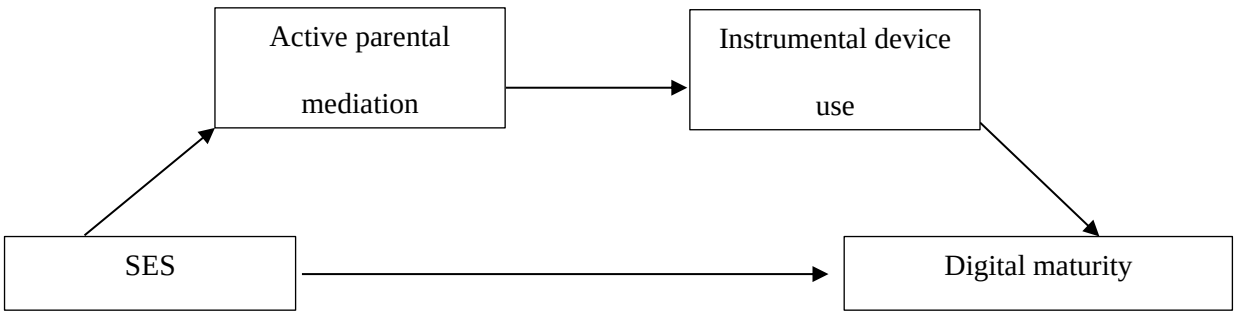
To date, no study has delved into instrumental device use of adolescents regarding digital technology and whether they perceive it primarily as a useful tool or primarily for entertainment purposes. Consequently, our third hypothesis investigates whether active parental mediation is positively associated with instrumental device use. This in turn should serve as another factor which should be positively associated with digital maturity (Hypothesis 4).

The present Study: The Interplay of all Factors within a Serial Mediation Model

This study aims to further explore children's digital maturity by examining what factors contribute to the development of mature behavior in the use of digital technology. We hypothesize that the factor of socioeconomic status exerts a positive influence on digital maturity, and we assume that this relationship is mediated by two key factors: active parental mediation and instrumental device use. Our final hypothesis (Hypothesis 5), as depicted in Figure 1, incorporates all of these factors into a serial mediation model and examines whether active parental mediation and instrumental device use sequentially mediate the relationship between SES and digital maturity. This model was tested in a large sample of adolescents, aged 12 to 18, along with their parents (N = 258). We administered an online questionnaire, first querying parents about their active parental mediation and SES, and subsequently, questioning their children about their instrumental device use and digital maturity.

Figure 1

The proposed serial mediation model



Note. SES = socioeconomic status.

Method

Participants

For the study, we were allowed to use data from the EU project BeWEEN (Be Well and Green when Digital), in which people between the ages of 12 and 18 participated. They recruited participants through the Talk Access panel in Austria to ensure a diverse and heterogeneous group. Conducting the study online facilitated easy accessibility for participation. Both parents and their children were involved in completing the study. Since the children were under 18 years old, consent from both the children and their parents was received to utilize the data.

The final sample included 481 adolescents, with a gender distribution of 50.2% male and 49.5% female. Exclusion criteria were applied for participants who had missing consents from either the parents or the child, as well as those who did not successfully complete the attention checks integrated into the study to ensure attentive participation. In addition, participants who completed the survey in an unrealistically short period of time were also excluded, as this raised concerns about the validity of their responses. Following the data cleaning process, the final sample consisted of 258 adolescents, with a gender distribution of 49.2% male and 50.4% female. The average age of the participants was 16.53 years, *SD* = 2.00.

Procedure

Initially, parents were provided with information about the study and asked to give their consent to participate. Subsequently, parents were requested to provide sociodemographic information about both their child and themselves. The child-related information included age, gender, current educational level and academic performance via grade average. Following these questions, parents were asked to provide their own demographic details, such as age, gender, education and socioeconomic status, Subsequently, parents were required to complete the active parental mediation questionnaire. This part of the study took approximately 10 minutes to finish. Upon completion of the parent's section, parents were asked to let their child complete the remainder of the survey. The child received a simplified explanation of the study and the assurance of anonymity. Upon providing informed assent, the child's age and gender were recorded. Subsequently, the child completed the digital maturity questionnaire (Laaber et al., 2022). Following this, the child was asked, whether they predominantly used digital technologies as an instrument or for entertainment. This particular phase of the study lasted about 20 minutes. Finally, both the child and their parent

were kindly requested to confirm their consent to share their information for the purposes of the study.

Materials

Socioeconomic status

To assess social class, the study used the MacArthur Subjective Social Status Scale (MacArthur SSS Scale), developed by Adler et al. (2000). This scale utilizes a single-item measure that examines an individual's perceived rank relative to others within their social group. Participants were presented with a visual representation of a ladder depicting the social hierarchy in Austrian society and were instructed to select the rung that best represented their own rank compared to all other people in Austria. The ladder ranged from 1 (at the bottom) to 10 (at the top) (Adler et al., 2000). This approach has been utilized in prior research to assess social class (Banjari et al., 2020; Navarro-Carrillo et al., 2020; Cundiff & Matthews, 2017) and has shown a positive correlation with parental education level (r = .24, p < .001) within the current study.

Digital maturity

To comprehensively evaluate the diverse competences of adolescents regarding digital technologies, we used the digital maturity scale, developed by Laaber et al. (2022). This scale comprises 33 questions that are responded to on a 5-point Likert scale, ranging from 1 (*never/not at all true of me*) to 5 (*always/very true of me*). The digital maturity scale comprises ten dimensions that can be grouped into three overarching competencies. The first competence, "The Capacity to Use Digital Technologies in an Autonomous and Self-determined Way" (Laaber et al., 2022, S.2), includes the dimensions of Autonomous Choice to Use Mobile Devices and Autonomy Within Digital Contexts (Cronbach's α = .65). An example item from this competence is: "I choose the content I want to see." The second competence, "The Capacity to Master Increasing Digital Challenges and Solve Problems" (Laaber et al., 2022, S.2), consists of the dimensions of Digital Literacy, Individual Growth in Digital Contexts, Digital Risk Awareness, and Support-seeking Regarding Digital Problems (Cronbach's α = .75). For instance, an example item from this competence is: "My own safety is very important to me." The final competence, "The Capacity to Interact Adequately with Others and Contribute to Society" (Laaber et al., 2022, S.2), encompasses the dimensions of Regulation of Negative Emotions in Digital Contexts, Regulation of Impulses in Digital Contexts, Respect Towards Others in Digital Contexts, and Digital Citizenship (Cronbach's α = .78). An example item from this competence is: "I watch my language when I disagree with someone so that what I say doesn't come across as mean." The overall internal consistency of

the digital maturity scale is satisfactory, with a Cronbach's α of .85, ensuring reliability of the scale as a whole.

Active parental mediation

To evaluate the extent to which parents engage in active mediation, we utilized the active parental mediation plus co-use questionnaire developed by Livingstone et al. (2011). In this paper we will refer to it as the active parental mediation scale. This questionnaire consists of 10 items overall designed to measure parental behaviors and practices. The response scale employed in this study, adapted from Steinfeld (2021), ranged from 1 to 5, representing the following options: *never, maybe once or twice before, occasionally (perhaps once every few months), often (at least once every month),* and *very often (at least once every week)*.

For our study, we modified the questionnaire items to ask directly about parents' actions and interactions with their child regarding mobile devices, which is consistent with the specific focus of our research. Example items are as follows: “Do you talk to your child about what they do on the mobile device?”, “Do you encourage your child to explore and learn things on the mobile device independently?”. The overall internal consistency of the active parental mediation scale demonstrates satisfactory reliability, with a Cronbach's α coefficient of .87.

Instrumental device use

The final measure used in this study is the instrumental device use, which was developed specifically for this research project. Instrumental device use relates to perceiving digital devices primarily as an instrument rather than pure sources of entertainment. This measure initially comprised 7 items. However, after conducting an Exploratory Factor Analysis, only 5 items were considered suitable for inclusion in the one-factor scale. Participants were asked to respond to these items on an 11-point Likert scale, ranging from 1 (*do not agree at all*) to 6 (*partly*) to 11 (*very much agree*). One example item is: “Mobile devices for me are helpful tools to complete my tasks”. The internal consistency of the digital tool attitude scale indicates a satisfactory level of reliability, as demonstrated by a Cronbach's α coefficient of .85.

Results

Preliminary Analysis

We conducted a post hoc analysis to determine the statistical power of our serial mediation model using a Monte Carlo approach to assess indirect effects. This analysis was performed with the web application developed by Schoemann and colleagues in 2017. The results of our analysis indicate that the statistical power for the parameter representing the relationship between SES, active parental mediation, and digital maturity is quite low, standing at only .03. Similarly, the power for the parameter representing the relationship between SES, instrumental device use, and digital maturity is moderately low, at .36. Finally, when considering both mediators in a serial fashion, our power for the mediation model drops even further to just .01. In this analysis, we employed 1000 replications, each with 20,000 Monte Carlo draws, and established a confidence level of 80%. The results of our power analysis suggest that our mediation model's power is insufficient to reliably detect any effects, should they exist. This limitation should be kept in mind when interpreting the results. Additionally, we used G*Power to assess the post hoc power of the relationship between SES and digital maturity, and this analysis revealed a more favorable power of 0.78.

Table 1 presents means, standard deviations and correlations among all study variables. In a concise summary, it can be observed that there is a positive correlation between socioeconomic status and digital maturity (r = .23, p < 0.001). Contrary to our assumption, no significant correlations were found between SES and active parental mediation (r = .01, p = .93), as well as active parental mediation and instrumental device use (r = -.02; p = .76). Finally, instrumental device use and digital maturity exhibit a positive correlation (r = .14, p = .03).

Moreover, Table 1 offers a clear perspective on which specific dimensions of digital maturity, separate from the overall digital maturity score, maintain connections with our study variables. This table highlights that while SES does not correlate with all aspects of digital maturity, both active parental mediation and instrumental device use are indeed linked to specific facets of digital maturity, encompassing both positive and negative associations. As indicated in Table 1, we also investigated the association between children's grade point average and their level of digital maturity. The correlation analysis revealed a significant negative correlation between children's average grade score and digital maturity (r = -0.31, p < 0.001). It is important to note that in the Austrian grading system, a high average grade score corresponds to lower academic performance, with 1 being the best grade and 5 being

the worst. Better school grades therefore correlate positively with the degree of digital maturity.

Table 1

Descriptive statistics and correlation matrix among study variables.

Variables	*M*	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Digital maturity	371.40	40.29	–													
2. SES	6.10	1.52	.23**	–												
3. Active parental mediation	3.05	0.77	-0.01	.01	–											
4. Instrumental device use	8.63	1.87	.14*	.08	-.02	–										
5. Autonomy in choice	3.31	1.03	.55**	.09	-.19**	-.14*										
6. Autonomy within digital contexts	4.45	0.53	.22**	-.07	–.13*	.10	-.05	–								
7. Digital Literacy	3.96	0.92	.57**	.12	-.18**	.17**	.18**	.20**	–							
8. Individual Growth	3.49	0.70	.32**	.08	.18**	.36**	-.06	-.08	.07	–						
9. Digital Risk Awareness	4.00	0.78	.69**	.20**	.03	.12	.31**	.09	.36**	.11	–					
10. Support-seeking	3.53	0.87	.31**	.03	.32**	.01	.00	.10	-.05	.08	.12	–				
11. Regulation of Negative Emotions	3.74	0.86	.59**	.24**	-.16**	0.1	.51**	.07	.26**	.01	.29**	.04	–			
12. Regulation of Impulses	3.87	0.81	.61**	.14*	-.10	-.13*	41**	.03	22**	.03	.28**	. 03	.41**	–		
13. Respect towards Others	4.14	0.69	.65**	.11	.03	.07	.16**	.21**	.28**	.19**	.49**	.15*	.19**	.43**	–	
14. Digital Citizenship	2.39	0.88	.32**	.16*	.20**	.21**	-.12	-.13*	.15*	.34**	.21**	.10	-.07	-.01	.20**	–
15. children's grade average	2.17	2.00	.31**	-.22**	-.01	-.07	-.24**	.10	-.10	-.08	-.26**	-.00	-.20**	-.26**	-.26**	-.10

Note. N = 258, M = Arithmetic mean, SD = Standard deviation, SES = socioeconomic status, *p < .05, ** p < .01

Evaluating Our Hypotheses Using Serial Multiple Mediation

To test our five hypotheses, we computed a serial mediation model using the PROCESS Macro (Model 6; Hayes, 2018) with 5000 bootstraps to estimate indirect effects, as illustrated in Figure 2. Hypothesis 1 suggested that higher parental socioeconomic status is associated with higher levels of digital maturity in children. The results, displayed in Figure 2 and Table 2, revealed a significant association between SES and digital maturity $b = 5.962$ (95% CI: [2.797, 9.128]), $SE = 1.608$, $p < .001$, supporting our first hypothesis.

Furthermore, we anticipated that a higher parental socioeconomic status would result in increased active parental mediation (Hypothesis 2), and this, in turn, would be linked to children predominantly utilizing digital technology for instrumental purposes rather than purely for entertainment (Hypothesis 3). Additionally, we hypothesized that instrumental

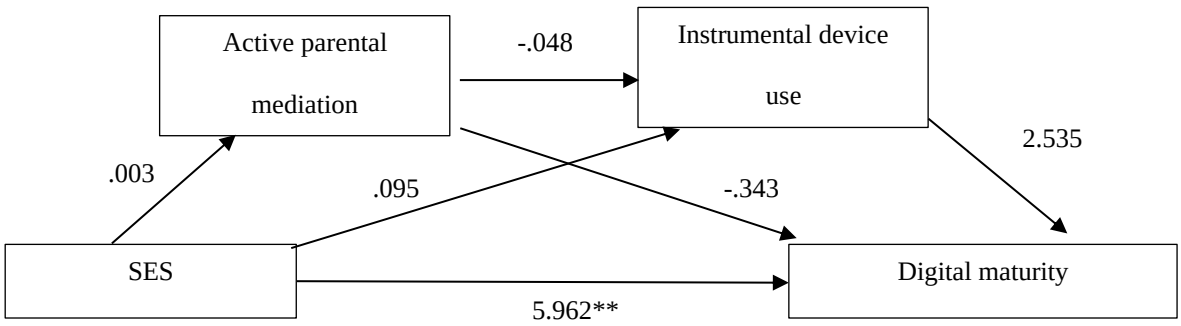
device use would have a positive impact on the level of digital maturity (Hypothesis 4). Against the first two assumptions, our results documented that (a) SES did not predict active parental mediation, b = 0.003 [-.059, .065], SE = .03, p = .932, (b) active parental mediation did also not predict instrumental device use, b = −0.048 [−.348, .252], SE = .15, p = .754. However, in accordance with our third assumption, (c) instrumental device use does predict digital maturity, b = 2.535 [-.040, 5.110], SE = 1.308, p = .054.

Our final hypothesis assumed that parental socioeconomic status would positively influence digital maturity through increased active parental mediation and instrumental device use. As can be seen in Table 3, the indirect effect from SES through active parental mediation and instrumental device use to digital maturity was not significant, b = 0.000 [-.030, .035], SE = .016. As a result, Hypothesis 5 was not supported.

As shown in Table 3, neither of the simple mediations from SES → active parental mediation → digital maturity, b = -.001 [-.247, .245], SE = .113, or from SES → instrumental device use → digital maturity, b = .240 [-.122, .994], SE = .295, were significant. Thus, in summary, only hypotheses 1 and 4 were confirme.

Figure 2

Serial mediation model with unstandardized regression coefficients



Note. N = 258, Pathways depict the significant indirect effect from SES to digital maturity. **p < .05, ** p < .01

Table 2

Direct Effects of the Mediation Model

	Dependent measure											
	Digital maturity				Instrumental device use				Active parental mediation			
Predictor	*b*	*SE*	*p*	95% CI	*b*	*SE*	*p*	95% CI	*b*	*SE*	*p*	95% CI
SES	5.962	1.608	<.001	[2.797, 9.128]	.095	.077	.218	[−.056, .246]	.003	.031	.932	[-.059, .065]
APM	-.343	3.181	.914	[-6.608, 5.923]	-.048	.152	.754	[−.348, .252]	–	–	–	–
IDU	2.535	1.308	.054	[-.040, 5.110]	–	–	–	–	–	–	–	–

Note. N = 258, b = unstandardized regression coefficient; 95% percentile bootstrap confidence intervals are based on 5000 bootstrap samples. SES = Socioeconomic status, APM = Active parental mediation, IDU = Instrumental device use

Table 3

Indirect Effects of the Mediation Model (N = 258)

Path	*b*	*SE*	95% CI
SES → Active parental mediation → Digital maturity	-.001	.113	[-.247, .245]
SES → Instrumental device use → Digital maturity	.240	.295	[-.122, .994]
SES → Active parental mediation → Instrumental device use → Digital maturity	.000	.016	[-.030, .035]

Note. b = unstandardized regression coefficient; 95% percentile bootstrap confidence intervals are based on 5000 bootstrap samples. SES = Socioeconomic status

Discussion and future research

As children immerse themselves in the digital world from an early age, it becomes vital for them to cultivate a unique form of maturity in their digital interactions, extending beyond technical proficiency. Our study delved into the factors that might be associated with children's development of digital maturity (Laaber et al., 2022). As recent research has shed light on the distinct challenges faced by children from lower socioeconomic backgrounds in the realm of digital technologies (Faltýnková et al., 2020; Sun et al., 2021; Cabello-Hutt et al., 2018), we specifically examined the interplay between socioeconomic status and the development of digital maturity in children. In our pursuit of understanding the link between SES and digital maturity, as well as exploring additional contributing factors on digital maturity, we introduced two mediating variables: Active parental mediation and instrumental device use. Our findings revealed a significant positive correlation between SES and digital maturity. Surprisingly, contrary to our expectations, neither active parental mediation nor instrumental device use served as mediators for this correlation. Nevertheless, we did identify a positive association between instrumental device use and digital maturity. Additionally, the correlation analysis provided a more nuanced understanding of which specific dimensions of digital maturity are associated with our study variables, offering deeper insights into the potential consequences of SES, active parental mediation, and instrumental device use. Since the statistical power within our mediation model was notably low, it is imperative to exercise caution when interpreting the results.

SES and digital maturity

In this study, we examined the potential impact of socioeconomic status on children's digital maturity scores. While previous research has concentrated on specific aspects like internet addiction (Faltýnková et al., 2020), social network addiction (Sun et al., 2021), and digital literacy (Cabello-Hutt et al., 2018) in relation to socioeconomic status, our approach encompassed a broader spectrum of capabilities essential for mature technology use. As anticipated, our findings align with our assumption that higher socioeconomic status corresponds to a higher level of digital maturity. Consequently, this study not only reveals how children from more privileged socioeconomic backgrounds seem to be better shielded from online risks but also equipped with the necessary skills to utilize digital technology in a way that fosters personal development and societal integration. In this sense, socioeconomic status seems to serve not only as a safeguard against online hazards but also as a predictor of a healthier and more beneficial online experience. Moreover, this study underscores the notion that socioeconomic status plays a pivotal role in perpetuating social inequality within

the realm of digital device usage. Children and adolescents hailing from less affluent socioeconomic backgrounds seem to not only are more likely to face digital risks, but also run the risk of missing out on valuable online opportunities that could otherwise improve their social and economic well-being (Zillien & Hargittai, 2009). This circumstance may further exacerbate the existing social divide.

Since digital maturity encompasses ten distinct capabilities, our study provided a more thorough investigation to identify which of these are most strongly associated with socioeconomic status and which appear to have no significant connection with SES. Digital risk awareness, regulation of negative emotions, regulation of impulses, and digital citizenship were the only dimensions that correlated positively with SES. The last three dimensions belong to the third skill of digital maturity, which is characterized by respectful interaction with others and the role of a responsible citizen. This finding is in line with recent research as children from families with low social status are more socially isolated (Matthews et al., 2015). Another longitudinal study found that children from low social status families participated less in large group activities in the community than peers from higher social status families (Schneider et al., 2000). Although the direct translation of face-to-face interaction to online interaction is uncertain, one study suggests that low social status youth have more negative experiences on social media, such as negative actions and exclusion (Skogen et al., 2022). Our results combined with recent research may suggest that children who do not acquire appropriate face-to-face interaction skills could potentially transfer these deficits to online communication. This could manifest as an inability to control impulses, manage negative emotions, or take responsibility for their actions in the online realm as well as in society.

Surprisingly, we found that the two aspects of autonomy were not influenced by socioeconomic status. This means that in our study, there was no distinction between children from high or low SES backgrounds when it comes to using digital technologies based on personal choice rather than external pressure or dependence. Recent research seems to go both ways, stating that higher SES can lead to children gaining less or more autonomy. A few studies found out that parents from low SES are more leaning to a controlled raising style which does not promote a sense of autonomy (Kohn, 1977; Radziszewska et al., 1996). Conversely, parents of lower social status often work longer hours away from home, limiting their opportunities to make decisions for their children and exert a high degree of control over them (Shi & Tan, 2021). Consequently, they tend to place more confidence in their children's decision-making skills and self-regulation (Shi & Tan, 2021). This form of practice promotes

autonomy for children from lower social status families. For instance, in a particular study, it was observed that families with the highest socioeconomic status granted the lowest levels of independence to their children, whereas parents from families with the lowest SES exerted the least amount of control (Shi & Tan, 2021). As recent studies as well as ours do not paint a consistent picture of the relationship between children's autonomy related to digital technology use and SES, further research is essential.

The dimension of digital literacy, in contrast to previous studies (e.g., Cabello-Hutt et al., 2018; Aesart & Van Braak, 2015), was not influenced by socioeconomic status. Notably, some studies have suggested that this connection might be explained by active parental mediation. However, our study found no correlation between active parental mediation and SES, a topic we will explore in more detail in the upcoming chapter. One possible assumption is that the level of digital literacy among the parents in our sample could have been generally low, independently from their SES. As we did not measure parental digital literacy, this is only speculation. The result of digital literacy may be connected to the aspect of "Individual Growth in Digital Contexts." This connection could arise from parents lacking the overall ability to use digital technology effectively, which, in turn, affects their capacity to explore their own capabilities through it. Consequently, this deficiency in parental digital proficiency may hinder them from imparting these skills to their children, potentially explaining the lack of correlation between SES and children's Individual Growth in Digital Contexts.

In sum, we suggest that future research should place a stronger emphasis on assessing parents' proficiency or even digital maturity in utilizing digital technology. This will help provide a clearer understanding of how the correlation between socioeconomic status and digital maturity, as well as its dimensions, can be more comprehensively elucidated.

The mediating role of active parental mediation

The second focus of the study is if the relationship between socioeconomic status and digital maturity is mediated by two sequential factors, with one of them being active parental mediation, as supported by previous research (e.g., Chen & Chang, 2016; Rodríguez-de-Dios et al., 2018; Sun et al., 2021; Xie et al., 2022). Contrary to our assumption, active parental mediation was unrelated to SES and digital maturity. This could indicate that parental involvement in guiding children's beneficial use of digital technology via active parental mediation might not always be significantly dependent on their socioeconomic status. Furthermore, the absence of a significant relation between active parental mediation and digital maturity could raise questions which other factors are related to digital maturity.

Although previous research has suggested that SES may play a role in shaping parental involvement in overseeing their child's technology usage, our own findings indicate that there might be other factors at play, which could independently influence this behavior regardless of SES. It's worth noting that due to the limited statistical power in our analysis, it remains possible that there was an effect that went undetected in our study. However, some studies indicate that one factor that could be related is parental technological ability and interest, which may influence their decision to engage in active parental mediation. This assumption is supported by a study conducted by Livingstone et al. (2015), which revealed that parents with specialized knowledge of digital media due to their profession or personal interests exhibited higher confidence in supervising their children's digital media activities and were more actively involved in these activities. Another study found that the ability to navigate technology effectively was a more significant factor influencing parents' participation in online information-seeking and social interactions than their income (Doty, Dworkin, & Connell, 2012). Additionally, another study proposed that the parental digital divide is primarily associated with technological ability and comfort rather than income or education (Cohall et al., 2004), which seem to affect parental engagement in their children’s technology use (Livingstome et al., 2015). Collectively, these studies suggest that factors such as parental technological proficiency, personal interest, or professional background may play a significant role in determining a parent's level of involvement with their child regarding technology use, and this may be independent of their SES. It's important to note that these are preliminary assumptions since we did not directly measure parents' proficiency or interest in technology. Again, future research should focus on examining these factors to gain a better understanding of the drivers of active parental mediation.

The second noteworthy finding concerning active parental mediation is its lack of an overall correlation with digital maturity within our study. However, this lack of correlation doesn't mean that active parental mediation has no effect at all on digital maturity as our correlation analysis revealed. Interestingly, active parental mediation demonstrated a negative correlation with autonomy, suggesting that this form of mediation might hinder or even undermine a child's sense of autonomy. One plausible explanation for this could be that when parents provide guidance or explanations, it may deter children from pursuing mastery motivation through self-directed exploration and learning from trial and error (Marsh, 2016; Erikson, 1993). This observation aligns with Erikson's (1993) theory of psychosocial development, which emphasizes the pivotal role of early childhood in fostering a sense of initiative. It's possible that the manner in which active parental mediation is carried out,

including the extent of explicit instruction, influences a child's autonomy. This notion is supported by a study conducted by Meeus et al. (2018), suggesting that the effectiveness of the active mediation strategy depends on its alignment with autonomy support. In other words, it's not the mediation form itself that promotes autonomy but rather the incorporation of this autonomy-supporting component.

Capabilities which active parental mediation was positively related to were individual growth, support-seeking, and digital citizenship, which to our knowledge are new insights into the benefit of active parental mediation. Surprisingly, digital literacy and the regulation of negative emotions were negatively correlated with active parental mediation, indicating that children who experienced more active mediation from their parents had reduced digital literacy skills and struggled with managing negative emotions while using digital technology. One study did find that active parental mediation exerted no significant effect on Chinese teenagers' general digital skill (Ren et al., 2022). One possible explanation could be that teenagers at this age generally prefer to achieve digital skills by independent explorations and trial and error, rather than direct instruction (Hurwitz & Schmitz, 2020; Marsh, 2016), as already mentioned. Maybe this hinders children gaining digital skills or in the context of our study, it may even contribute to a decline in children's digital skills.

In conclusion, there are several critical avenues for future research in this field. First and foremost, it is essential to replicate this study with a larger sample size to enhance statistical power, enabling a more reliable determination of the presence or absence of effects. Secondly, future research should endeavor to identify alternative factors that can elucidate the relationship between SES and digital maturity. Exploring a broader array of variables can contribute to a more comprehensive understanding of this dynamic. Thirdly, research should expand its scope beyond SES and consider other elements that may influence active parental mediation. Factors such as parental digital proficiency and interest are worthy of investigation as they can play a crucial role in shaping parental guidance in the digital realm. Furthermore, in light of this study's revelations regarding the specific capabilities that active parental mediation may enhance or diminish, there is potential for in-depth exploration of this form of mediation. It may be possible to tailor active parental mediation to support specific skills, such as autonomy, which could result in a more balanced and constructive impact on a child's digital development. This avenue of research could yield valuable insights into optimizing parental guidance strategies in the digital age.

The mediating role of instrumental device use

The second mediator we considered in terms of its influence on the relationship between SES and digital maturity, alongside active parental mediation, is instrumental device use. Our initial assumption was that active parental mediation would lead children to primarily perceive digital technologies as instruments. We introduced this new variable to examine the impact of active parental mediation and its effect on digital maturity. Contrary to our expectations, active parental mediation did not have a significant impact on children's ability to perceive technology as an instrument in our study. This raises the question of whether other factors help or hinder a child's ability to see technology as a useful tool, or whether it is because of our limited power. This inquiry is significant because our findings reveal a positive correlation between using technology as a tool and overall digital maturity. It suggests that this skill plays a role in a child's digital maturity. In future research, we should replicate this study with a bigger sample size to see if there is really no effect between active parental mediation and instrumental device use. Further, it should be considered identifying other factors that influence a child's capacity to utilize technology as a tool, which would enable us to develop effective interventions.

As already mentioned, we did find a significant positive correlation between instrumental device use and levels of digital maturity. This implies that young individuals who regard digital technology as an instrument for various purposes, rather than merely for entertainment, tend to have a higher level of digital maturity. This finding makes much sense as digital maturity reflects the competence of using digital technology effectively and in ways that fulfil personal needs. However, due to our study design, it remains unclear which variable influences the other, as correlations alone cannot establish causation. Does instrumental device use lead to increased digital maturity, or does digital maturity drive instrumental device use? It's also possible that instrumental device use is a component of digital maturity. What we do know is that there exists a positive relationship between instrumental device use and digital maturity.

Through our study, we delved deeper and uncover which specific facets of digital maturity are particularly linked to the perspective of viewing technology as an instrument. In total, three dimensions showed a positive correlation, while two were negatively related. Firstly, instrumental device use was positively associated with the skill of digital literacy, which is logical in both directions. One, using technology as a tool provides opportunities to explore its various functions and applications, thereby improving technical abilities, in line with the motto “learning by doing”. For instance, when children aim to create digital

presentation slides, they need to interact with their laptops and learn how to use software like PowerPoint. Conversely, children who do not have the motivation to utilize their laptops for such purposes will not improve their PowerPoint skills. Second, having a higher digital literacy can only offer the possibility to use technology as an instrument. Children who do not know how to use technology might not be able to use it as a helpful instrument. The second capability positive related to is individual growth. One possible connection can be as instrumental device use entails the ability to achieve certain goals and increase efficiency through the use of technology, it would make sense that this promotes the ability for individual growth. Additionally, digital citizenship was positively correlated with our new variable, as it aligns with the goal of using the internet as an instrument for positive contributions to the world.

On the flip side, two dimensions were negatively correlated with the new variable: Regulation of impulses and autonomy in choice. The reasons for these negative relationships are not clear, and further research is needed to explore these dynamics, as it shows how instrumental device use does not only have benefits. Especially the second finding is rather unexpected, considering our initial assumption that purposeful technology use would reduce the feeling of needing to be online all the time or the fear of missing out as we would have thought that children stop using technology when they completed the task for what they used it for. However, maybe our results suggest that knowing technology can be used to one's advantage might actually increase the sensation of needing to be online constantly and heighten the fear of missing out. This idea finds support in a study that demonstrated a positive relationship between information overload and the fear of missing out, which is a component of autonomy in choice (Bui et al., 2022). This study could imply that children who use the internet to achieve specific goals might encounter a wealth of information and opportunities, leading them to feel like they must be online all the time to avoid missing out on crucial opportunities. A similar effect might occur in the context of social connections; if children intend to use technology for the need to belong, the fear of missing out could drive them to stay online continuously to prevent missing out on social connections. In one research study, it was indeed discovered that adolescents' desire for social belonging and the quest for popularity were positively correlated with heightened feelings of FOMO (Fear of Missing Out). These heightened FOMO feelings, in turn, demonstrated an association with increased engagement in Facebook usage (Beyens et al., 2016). Indeed, the purpose for which technology is used may significantly influence the autonomy in choice. Certain objectives can maybe heighten the persistent need to be online, thereby diminishing one's sense of

autonomy. This can occur due to the perception of the internet as limitless and overwhelming or when the objective lacks a clearly defined endpoint, as is the case with pursuits related to seeking popularity. As this is all speculation, further research should delve deeper into these dynamics and explore why using technology as an instrument is negatively related to the feeling of autonomy in choice.

Future research should further investigate the variable of instrumental device use. Through experimental designs, it could explore if instrumental device use promotes digital maturity, if digital maturity promotes instrumental device use, or if both concepts are interlinked and constitute a part of each other. Additionally, it's worth investigating how children can harness this approach effectively without sacrificing other skills such as autonomy that ultimately contribute to well-rounded and mature technology usage.

Relevance

This study marks a significant advancement in the research on children's digital maturity and the factors that influence it. It stands out as the first of its kind to comprehensively assess the impact of socioeconomic status, active parental mediation, and instrumental device use on digital maturity. In summary, this study not only reaffirms existing research by demonstrating the link between parents' socioeconomic status and children's digital device usage but also adds depth to our understanding in several meaningful ways.

First and foremost, the introduction of the concept of digital maturity provides a more nuanced perspective on the skill set that correlates with a child's socioeconomic background. It reveals that SES is not only a protective factor but also a predictive element in a child's online developmental journey. Moreover, it also highlights that SES does not correlate with every crucial capability for digital maturity, potentially implying the involvement of other factors. This study underscores how socioeconomic status amplifies social inequality, with children from higher SES backgrounds reaping more significant benefits from digital technology.

Secondly, our study delves deeper into active parental mediation. On one hand, it might be possible that other important factors next to SES are of potential influence such as parental digital literacy and interest when it comes to active parental mediation. On the other hand, it gives indication that active parental mediation might be of dual nature, positively impacting certain skills while negatively affecting others. This underscores the significance of a well-thought-out approach to parental involvement, not neglecting the importance of

autonomy and self-exploration. Furthermore, the absence of a direct association between active parental mediation and overall digital maturity in this study could indicate the existence of additional factors shaping the SES-digital maturity relationship. However, as our power was very low, there might have been a significant relationship that we did not detect.

Thirdly, the exploration of the new variable of instrumental device use offers profound insights into how children's attitudes may influence their online capabilities. This investigation illuminates the aspects of mature technology usage that might be reinforced or weakened by instrumental device use. It is worth noting that instrumental device use appears to be a positive contributor to overall mature technology utilization. The detailed examination of different dimensions related to instrumental device use enriches our understanding of the complex skill profile children need for mature technology use, highlighting that the ability to use technology as a tool has both advantages and disadvantages and therefore needs further investigations.

Fourth, the significant correlation between children's grade point averages and digital maturity underscores the pivotal role of the educational system. It emphasizes the potential benefits of a collaborative approach that involves multiple institutions in enhancing children's digital maturity, including the family system as well as the school system. This approach can level the playing field, particularly for children from lower SES backgrounds, providing them with greater access to the opportunities that technology offers. In essence, collective efforts from various institutions have the potential to foster digital maturity and promote equitable access to the vast possibilities technology provides, even for children with limited economic resources.

Limitations

While this study has brought to light fresh and captivating insights into the factors influencing children's digital maturity, it is not devoid of limitations. To begin with, the biggest limitation is the small sample size, which resulted in the very low power of the mediation model of .01. Due to the attention controls and lack of informed consent, we had to exclude many participants. Therefore, it is very difficult to identify effects, if any. Therefore, the results are, if anything, indicative of how the factors may be related.

Second, the study employed a correlative research design, which implies that it cannot establish cause-and-effect relationships. This limitation hinders our ability to definitively determine whether instrumental device use influences digital maturity, if the relationship is bidirectional, or if it's an integral aspect of digital maturity. The best we can ascertain is that

these two variables are positively associated, which, in turn, restricts our ability to pinpoint which capability should be prioritized to enhance the other.

Thirdly, as we conducted this study using an online questionnaire, there exists the potential for respondents to provide socially desirable responses. Interestingly, this phenomenon appeared not to be a concern among the parents, as their answers fell within the average range or below. However, among the children, who demonstrated relatively high scores in instrumental device use and digital maturity, there is a possibility that they portrayed themselves in a more favorable light. Regrettably, controlling for this behavior in an online questionnaire proves to be challenging. This could potentially undermine the validity of the study.

Fourthly, our study did not explore potential crucial factors, including the technological competencies and interests of parents. We did not assess whether parents' technological abilities varied in relation to their socioeconomic status. Consequently, it remains unclear whether potential disparities in technological proficiency could have contributed to the absence of a discernible link between SES and active parental mediation. It raises the question of whether technological abilities might be more closely associated with the practice of active parental mediation, rather than being solely influenced by SES. In future research endeavors, it is recommended to include inquiries about parents' technological capabilities and to examine how these capabilities are intertwined with both SES and active parental mediation. Such investigations can provide a more comprehensive view of the intricate dynamics impacting children's technology usage and the role of parental involvement in shaping those dynamics.

References

Aesaert, K. & Van Braak, J. (2015). Gender and socioeconomic related differences in performance based ICT competences. *Computers & Education*, *84*, 8–25. https://doi.org/10.1016/j.compedu.2014.12.017

Banjari, I., Martinovic, M., Belojevic, G., Asanin, B., Kovačević, N. D., Kenjerić, D., Miškulin, M., Pantovic, S., Pušeljić, S., Sokolić, D., Buljan, V., Bilić-Kirin, V. & Jakšić, M. (2020). Poverty and other correlates of obesity and underweight among 7-year-olds from Croatia and Montenegro. *Public Health*, *182*, 64–69. https://doi.org/10.1016/j.puhe.2020.01.017

Baturay, M. H., & Toker, S. (2019). Internet addiction among college students: Some causes and effects. *Education and Information Technologies*, *24*(5), 2863–2885. https://doi.org/10.1007/s10639-019-09894-3

Becker, H. J. (2000). Who's wired and who's not: Children's access to and use of computer technology. *The Future of Children, 10*(2), 44–75. https://doi.org/10.2307/ 1602689

Beyens, I., Frison, E. & Eggermont, S. (2016). "I don't want to miss a thing": Adolescents' fear of missing out and its relationship to adolescents' social needs, Facebook use, and Facebook related stress. *Computers in Human Behavior, 64*, 1–8. https://doi.org/10.1016/j.chb.2016.05.083

Bradley, R. H., & Corwyn, R. F. (2002). Socioeconomic status and child development. *Annual Review of Psychology, 53*(1), 371–399. https://doi.org/10.1146/annurev.psych.53.100901.135233

Bråten, I., & Strømsø, H. I. (2006). Epistemological beliefs, interest, and gender as predictors of Internet-based learning activities. *Computers in Human Behavior*, *22*(6), 1027–1042. https://doi.org/10.1016/j.chb.2004.03.026

Cabello-Hutt, T., Cabello, P., & Claro, M. (2018). Online opportunities and risks for children and adolescents: The role of digital skills, age, gender and parental mediation in Brazil. *New Media & Society, 20*(7), 2411–2431. https://doi.org/10.1177/1461444817724168

Cao, H., Qian, Q., Weng, T., Yuan, C., Sun, Y., Wang, H. & Tao, F. (2011). Screen time, physical activity and mental health among urban adolescents in China. *Preventive Medicine, 53* (4–5), 316–320. https://doi.org/10.1016/j.ypmed.2011.09.002

Chen, J.-H., Zheng, H., Drake, B., & Jonson-Reid, M. (2023). Explaining adolescent problematic behavior: An application of the family stress model and the family

investment model. *Journal of Child and Family Studies*. https://doi.org/10.1007/s10826-022-02515-7

Chen, V. H. H., & Chng, G. S. (2016). Active and restrictive parental mediation over time: Effects on youths' self-regulatory competencies and impulsivity. *Computers & Education, 98,* 206–212. https://doi.org/10.1016/j.compedu.2016.03.012

Chen, L., & Shi, J. (2018). Reducing harm from media: A meta-analysis of parental mediation. *Journalism & Mass Communication Quarterly, 96,* 173–193. https://doi.org/10.1177/1077699018754908

Cingel, D., & Krcmar, M. (2013). Predicting media use in very young children: the role of demographic and parent attitudes. *Communication Studies*, *64*(4), 374–394.

Cino, D., Lacko, D., Mascheroni, G. & Šmahel, D. (2022). Predictors of children's and young people's digital engagement in informational, communication, and entertainment activities: findings from ten European countries. *Journal of Children and Media*, *17*(1), 37–54. https://doi.org/10.1080/17482798.2022.2123013

Cohall, A. T., Cohall, R., Dye, B., Dini, S., & Vaughan, R. D. (2004). Parents of urban adolescents in Harlem, New York, and the Internet: a cross-sectional survey on preferred resources for health information. *Journal of Medical Internet Research*, *6*(4), e43. https://doi.org/10.2196/jmir.6.4.e43

Correa, T. (2016). Digital skills and social media use: How internet skills are related to different types of facebook use among 'digital natives. *Information, Communication & Society, 19*(8), 1095–1107. https://doi.org/10.1080/1369118X.2015.1084023

Crittenden, C. (2019). The kids are online - and alright. *Issues in Science and Technology, 36* (1), 43-47.

Cundiff, J. M., & Matthews, K. A. (2017). Is subjective social status a unique correlate of physical health? A meta-analysis. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association*, *36*(12), 1109–1125. https://doi.org/10.1037/hea0000534

Davidson, R., & Mackinnon, J. G. (1993). *Estimation and Inference in Econometrics*. Oxford University Press.

Deutsch, K. L., & Kuhn, S. (2019). Das Märchen der Digital Natives: Kollaboratives Arbeiten als Methode zur Aneignung digitaler Kompetenzen. *Medienpädagogik, 36* (Teilhabe), 37–47. https://doi.org/10.21240/mpaed/36/2019.11.11.x

Doty, J., Dworkin, J., & Connell, J. (2012). Examining digital differences: Parents' online activities. *Family Science Review*, *17*(2). https://doi.org/10.26536/fsr.2012.17.02.02

Erikson, E. H. (1993). *Childhood and society*. New York, NY: W. W. Norton.

Faltýnková, A., Blinka, L., Ševčíková, A., & Husarova, D. (2020). The associations between family-related factors and Excessive Internet Use in adolescents. *International Journal of Environmental Research and Public Health*, *17*(5), 1754. https://doi.org/10.3390/ijerph17051754

Feierabend, S., Rathgeb, T., & Kheredmand, H. (2021). *JIM Studie 2021: Jugend, Information, Medien. Basisuntersuchung zum Medienumgang 12- bis 19-Jähriger.* Medienpädagogischer Forschungsverbund Südwest. *https://www.mpfs.de/fileadmin/files/Studien/JIM/2019/JIM_2019.pdf*

Fu, X., Liu, J., Liu, R.-D., Ding, Y., Hong, W., & Jiang, S. (2020). The impact of parental active mediation on adolescent mobile phone dependency: A moderated mediation model. *Computers in Human Behavior*, *107*(106280), 106280. https://doi.org/10.1016/j.chb.2020.106280

Haider, Z. F., & von Stumm, S. (2022). Predicting educational and social-emotional outcomes in emerging adulthood from intelligence, personality, and socioeconomic status. *Journal of Personality and Social Psychology*, *123*(6), 1386–1406. https://doi.org/10.1037/pspp0000421

Hatlevik, O. E., & Christophersen, K. A. (2013). Digital competence at the beginning of upper secondary school: Identifying factors explaining digital inclusion. *Computers and Education*, *63*, 240–247. https://doi.org/10.1016/j.compedu.2012.11.015

Hawi, N. S., Samaha, M., & Griffiths, M. D. (2019). The digital addiction scale for children: Development and validation. *Cyberpsychology, Behavior, and Social Networking, 22*(12), 771–778. https://doi.org/10.1089/cyber.2019.0132

Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis, Second Edition (Methodology in the Social Sciences)* (2nd ed.). Guilford Press.

Janschitz, G., Zehetner, E. & Fernandez, K. (2022). „Digitalisierung mit der Brechstange“? Auswirkungen der Pandemie auf Digitalisierungsprozesse und digitale Ungleichheiten an österreichischen Schulen. *Zeitschrift für Bildungsforschung, 12* (2), p.387-406.

Kalmus, V., Blinka, L., & Ólafsson, K. (2015). Does it matter what mama says: Evaluating the role of parental mediation in European adolescents' excessive internet use. *Children & Society*, *29*(2), 122–133. https://doi.org/10.1111/chso.12020

Kim, H., Schlicht, R., Schardt, M. & Florack, A. (2021). The contributions of social Comparison to social network site addiction. *PLOS ONE, 16*(10), e0257795. https://doi.org/10.1371/journal.pone.0257795

Kohn, M. (1977). The Kohn Social Competence Scale and Kohn Symptom Checklist for the preschool child: a follow-up report. *Journal of Abnormal Child Psychology, 5*(3), 249–263. https://doi.org/10.1007/bf00913696

Laaber, F., Florack, A., Koch, T., & Hubert, M. (2023). Digital maturity: Development and validation of the Digital Maturity Inventory (DIMI). *Computers in Human Behavior, 143*, 107709. https://doi.org/10.1016/j.chb.2023.107709

Laird, R. D., Zeringue, M. M., & Lambert, E. S. (2018). Negative reactions to monitoring: Do they undermine the ability of monitoring to protect adolescents? *Journal of Adolescence*, *63*, 75–84. https://doi.org/10.1016/j.adolescence.2017.12.007

Li, W. D., Arvey, R. D., & Song, Z. (2011). The influence of general mental ability, self-esteem and family socioeconomic status on leadership role occupancy and leader advancement: The moderating role of gender. *The Leadership Quarterly, 22*(3), 520–534. https://doi.org/10.1016/j.leaqua.2011.04.009

Li, X., Yang, H., Wang, H., & Jia, J. (2020). Family socioeconomic status and home-based parental involvement: A mediation analysis of parental attitudes and expectations. *Children and Youth Services Review, Article 105111*. https://doi.org/10.1016/j.childyouth.2020.105111

Livingstone, S., & Helsper, E. (2007). Gradations in digital inclusion: Children, young people and the digital divide. *New Media & Society, 9*(4), 671–696. https://doi.org/10.1177/1461444807080335

Livingstone, S., & Helsper, E. J. (2008). Parental mediation of chil- dren's internet use. *Journal of Broadcasting and Electronic Media, 52*, 581–599. https://doi.org/10.1080/08838150802 437396.

Livingstone, S., & Helsper, E. (2010). Balancing opportunities and risks in teenagers' use of the internet: The role of online skills and internet self-efficacy. *New Media & Society, 12*(2), 309–329. https://doi.org/10.1177/1461444809342697

Livingstone, S., Mascheroni, G., Dreier, M., Chaudron, S., & Lagae, K. (2015). *How parents of young children manage digital devices at home: The role of income, education and parental style.* London, UK: EU Kids Online.

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2011). *Risks and safety on the internet: The perspective of European children: Full findings and policy implications*

from the EU Kids Online survey of 9-16 year olds and their parents in 25 countries (EU Kids Online, Deliverable D4). EU Kids Online Network. http://eprints.lse.ac.uk/33731/

Matthews, T., Danese, A., Wertz, J., Ambler, A., Kelly, M., Diver, A., Caspi, A., Moffitt, T. E. & Arseneault, L. (2015). Social isolation and mental health at primary and secondary school entry: a longitudinal cohort study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *54*(3), 225–232. https://doi.org/10.1016/j.jaac.2014.12.008

Marino, C., Gini, G., Vieno, A., & Spada, M. M. (2018). The associations between problematic Facebook use, psycho- logical distress and well-being among adolescents and young adults: A systematic review and meta-analysis. *Journal of Affective Disorders*, *226*, 274–281. Elsevier B.V

Marsh, J. (2016). The digital literacy Skills and competences of children of pre-school age. *Media Education*, *7*(2), 178–195. https://eprints.whiterose.ac.uk/111058/

McCrae, N., Gettings, S., & Purssell, E. (2017). Social media and depressive symptoms in childhood and adolescence: A systematic review. *Adolescent research review*, *2*(4), 315–330. https://doi.org/10.1007/s40894-017-0053-4

Meng, J., Martinez, L., Holmstrom, A., Chung, M., & Cox, J. (2017). Research on social networking sites and social support from 2004 to 2015: A narrative review and directions for future research. *Cyberpsychology, Behavior, and Social Networking, 20*(1), 44–51. https://doi.org/10.1089/cyber.2016.0325

Nathanson, A. I. (2001). Parent and child perspectives on the presence and meaning of parental television mediation. *Journal of Broadcasting & Electronic Media*, *45*(2), 201–220. https://doi.org/10.1207/s15506878jobem4502_1

Navarro-Carrillo, G., Alonso-Ferres, M., Moya, M., & Valor-Segura, I. (2020). Socioeconomic status and psychological well-being: Revisiting the role of subjective socioeconomic status. *Frontiers in Psychology*, *11*, 1303. https://doi.org/10.3389/fpsyg.2020.01303

Nikken, P., & Opree, S. J. (2018). Guiding young children's digital media use: SES-differences in mediation concerns and competence. *Journal of Child and Family Studies, 27*(6), 1844–1857. https://doi.org/10.1007/s10826-018-1018-3

Nikken, P., & Jansz, J. (2006). Parental mediation of children's videogame playing: a comparison of the reports by parents and children. *Learning, Media and Technology, 31*(2), 181–202.

Özparlak, A., & Karakaya, D. (2022). The associations of cognitive distortions with internet addiction and internet activities in adolescents: A cross-sectional study. *Journal of Child and Adolescent Psychiatric Nursing: Official Publication of the Association of Child and Adolescent Psychiatric Nurses, Inc*, *35*(4), 322–330. https://doi.org/10.1111/jcap.12385

Radziszewska, B., Richardson, J. L., Dent, C. W., & Flay, B. R. (1996). Parenting style and adolescent depressive symptoms, smoking, and academic achievement: ethnic, gender, and SES differences. *Journal of Behavioral Medicine*, *19*(3), 289–305. https://doi.org/10.1007/bf01857770

Ren, W., Zhu, X. & Yang, J. (2022). The SES-based Difference of Adolescents' digital Skills and Usages: An explanation from Family Cultural Capital. *Computers & Education*, *177*, 104382. https://doi.org/10.1016/j.compedu.2021.104382

Rodríguez-de-Dios, I., van Oosten, J. M. F., & Igartua, J.-J. (2018). A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. *Computers in Human Behavior*, *82*, 186–198. https://doi.org/10.1016/j.chb.2018.01.012

Schaan, V. K., & Melzer, A. (2015). Parental mediation of children's television and video game use in Germany: Active and embedded in family processes. *Journal of children and media, 9* (1), 58–76. https://doi.org/10.1080/17482798.2015.997108

Scherer, R., & Siddiq, F. (2019). The relation between students' socioeconomic status and ICT literacy: Findings from a meta-analysis. *Computers and Education, 138*, 13–32. https://doi.org/10.1016/j.compedu.2019.04.011

Schneider, B. H., Richard, J. F., Younger, A. J., & Freeman, P. (2000). A longitudinal exploration of the continuity of children's social participation and social withdrawal across socioeconomic status levels and social settings. *European Journal of Social Psychology*, *30*(4), 497–519. https://doi.org/10.1002/1099-0992(200007/08)30:4<497::aid-ejsp4>3.0.co;2-0

Schoemann, A. M., Boulton, A. J. & Short, S. D. (2017). Determining power and sample size for simple and complex mediation models. *Social Psychological and Personality Science*, *8*(4), 379–386. https://doi.org/10.1177/1948550617715068

Shi, M., & Tan, C. Y. (2021). Parental autonomy-support, parental control, SES, and mathematics achievement: A latent profile analysis. *Journal of Research in Childhood Education*, *35*(4), 535–549. https://doi.org/10.1080/02568543.2020.1752336

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, *75*(3), 417–453. https://doi.org/10.3102/00346543075003417

Skogen, J. C., Bøe, T., Finserås, T. R., Sivertsen, B., Hella, R. T., & Hjetland, G. J. (2022). Lower subjective socioeconomic status is associated with increased risk of reporting negative experiences on social media. Findings from the „LifeOnSoMe"-study. *Frontiers in Public Health*, *10*, 873463. https://doi.org/10.3389/fpubh.2022.873463

Sonck, N., Nikken, P. & De Haan, J. (2013). Determinants of internet mediation: *Journal of Children and Media*, *7*(1), 96–113. https://doi.org/10.1080/17482798.2012.739806

Steinfeld, N. (2021). Parental mediation of adolescent Internet use: Combining strategies to promote awareness, autonomy and self-regulation in preparing youth for life on the web. *Education and Information Technologies*, *26*(2), 1897–1920. https://doi.org/10.1007/s10639-020-10342-w

Sun, X., Duan, C., Yao, L., Zhang, Y., Chinyani, T., & Niu, G. (2021). Socioeconomic status and social networking site addiction among children and adolescents: Examining the roles of parents' active mediation and ICT attitudes. *Computers & Education, 173*(104292), 104292. https://doi.org/10.1016/j.compedu.2021.104292

Valkenburg, P. M., & Peter, J. (2009). Social consequences of the internet for adolescents: A decade of research. *Current Directions in Psychological Science, 18*(1), 1–5. https://doi.org/10.1111/j.1467-8721.2009.01595.x

Vijayalakshmi, A., Lin, M.-H. (jenny), & Laczniak, R. N. (2020). Evaluating adolescents' responses to internet ads: Role of ad skepticism, internet literacy, and parental mediation. *Journal of Advertising*, *49*(3), 292–308. https://doi.org/10.1080/00913367.2020.1770639

Xie, L., Wang, Z., Yu, Z., & Fong, F. T. K. (2022). Relationship between SES and preschoolers' sociality: the mediating effect of household screen media experience. *Early Child Development and Care*, *192*(7), 1079–1091. https://doi.org/10.1080/03004430.2020.1838498

Appendices

Appendix A: English and German abstract

Englisch Abstract

This study was conducted with the aim of examining different influences on children's development of digital maturity. Digital maturity is defined as "the capabilities and attitudes which enable individuals to use digital technologies in ways which support individual development (growth) and integration into society (adjustment)" (Laaber et al., 2022, S. 2). Given recent research indicating the influence of parental socioeconomic status (SES) on children's technology use, our study primarily focused on its effect on digital maturity. Additionally, we examined the roles of active parental mediation and adolescents' instrumental device use as potential mediators in this context. A total of 258 students and their parents (aged between 12 and 18, 49.2% boys) participated in the online study. The results revealed several key findings: First, there was a positive association between SES and digital maturity, indicating that adolescents from higher socioeconomic backgrounds tended to demonstrate higher levels of digital maturity. Second, contrary to expectations, neither active parental mediation nor adolescents' instrumental device use mediated the relationship between SES and digital maturity. Lastly, a positive correlation was found between adolescents' digital maturity and their instrumental device use. These findings provide valuable insights into the factors that potentially influence the digital maturity of adolescents.

Keywords: digital maturity, social class, parental mediation, instrumental device use, adolescents

German Abstract

Diese Studie wurde mit dem Ziel durchgeführt, verschiedene Einflüsse auf die Entwicklung der digitalen Reife von Kindern zu untersuchen. Digitale Reife wird definiert als "die Fähigkeiten und Einstellungen, die es Individuen ermöglichen, digitale Technologien auf eine Weise zu nutzen, die die individuelle Entwicklung (Wachstum) und die Integration in die Gesellschaft (Anpassung) unterstützt" (Laaber et al., 2022, S. 2). Angesichts jüngster Forschungsergebnisse, die den Einfluss des elterlichen sozioökonomischen Status (SES) auf die Technologienutzung von Kindern aufzeigen, konzentrierte sich unsere Studie in erster Linie auf dessen Auswirkungen auf die digitale Reife. Darüber hinaus untersuchten wir die Rolle der aktiven elterlichen Mediation und die instrumentelle Gerätenutzung von Jugendlichen als potenzielle Vermittler in diesem Zusammenhang. Insgesamt nahmen 258 Schüler und ihre Eltern (im Alter von 12 bis 18 Jahren, 49,2% Jungen) an der Online-Studie teil. Die Ergebnisse enthüllten mehrere wichtige Erkenntnisse: Erstens gab es eine positive

Verbindung zwischen dem SES und der digitalen Reife, was darauf hindeutet, dass Jugendliche aus höheren sozioökonomischen Hintergründen tendenziell ein höheres Maß an digitaler Reife zeigten. Zweitens vermittelten weder die aktive elterliche Mediation noch die instrumentelle Gerätenutzung der Jugendlichen die Beziehung zwischen SES und digitaler Reife, entgegen den Erwartungen. Schließlich wurde eine positive Korrelation zwischen der digitalen Reife der Jugendlichen und ihrer instrumentellen Gerätenutzung festgestellt. Diese Ergebnisse bieten wertvolle Einblicke in die Faktoren, die die digitale Reife von Jugendlichen beeinflussen.

Stichwörter: digitale Reife, soziale Klasse, elterliche Mediation, instrumentelle Gerätenutzung, Jugendliche

Appendix B: Scales

SES-Ladder

SESLadder_Parent Unten sehen Sie eine Leiter mit Nummern neben jeder Sprosse. Stellen Sie sich vor, diese Leiter zeigt an, wo **Menschen in Österreich** stehen. An der Spitze der Leiter sind Menschen, die am besten gestellt sind - die am meisten Geld besitzen, die höchste Bildung und die angesehensten Berufe haben. Am unteren Ende der Leiter sind Menschen, die am schlechtesten gestellt sind - die am wenigsten Geld besitzen, über die geringste Bildung verfügen und die am wenigsten angesehen sind oder keinen Beruf haben.
Wo würden Sie sich auf der Leiter platzieren?

Je höher Sie auf der Leiter stehen, desto ähnlicher sind Sie den Menschen am oberen Ende der Leiter. Je niedriger Sie auf der Leiter stehen, desto ähnlicher sind Sie den Menschen am unteren Ende. Bitte geben Sie an, auf welcher Leitersprosse Sie zum gegenwärtigen Zeitpunkt im Vergleich zu anderen **Menschen in Österreich** stehen. Bitte wählen Sie die Nummer aus der drop-down Liste unten aus.

▼ 10 (10) ... 1 (1)

Active parental mediation

active_mediation Wir bitten Sie nun nach Ihrer Einschätzung, **wie oft Sie folgende Dinge machen**, wenn **Ihr Kind ein Mobilgerät (wie Handy, Tablet, oder Laptop) benutzt**. Bitte geben Sie an, wie oft die Dinge passieren von "*nie*" bis "*sehr oft*".

	Nie (1)	Vielleicht schon 1-2 Mal (2)	Manchmal, vielleicht einmal alle paar Monate (3)	Oft, mindestens jedes Monat (4)	Sehr oft, mindestens jede Woche (5)
Sprechen Sie mit Ihrem Kind darüber, was er/sie am Mobilgerät tut? (active_mediation_1)	○	○	○	○	○
Ermutigen Sie Ihr Kind dazu, Dinge am Mobilgerät eigenständig auszuprobieren und zu lernen? (active_mediation_2)	○	○	○	○	○
Sitzen Sie bei Ihrem Kind, wenn er/sie ein Mobilgerät benutzt (mitsehen, aber nicht teilnehmen/ einmischen)? (active_mediation_3)	○	○	○	○	○
Bleiben Sie in der Nähe, wenn Ihr Kind ein Mobilgerät benutzt? (active_mediation_4)	○	○	○	○	○
Machen Sie mit Ihrem Kind Dinge gemeinsam am Mobilgerät? (active_mediation_5)	○	○	○	○	○
Es ist wichtig, dass Sie die Befragung aufmerksam beantworten. Bitte wählen sie hier "Nie" aus. (AttCheck_Parent1)	○	○	○	○	○

co-use Wir bitten Sie nun nach Ihrer Einschätzung, **wie oft Sie folgende Dinge machen**, wenn **Ihr Kind ein Mobilgerät (wie Handy, Tablet, oder Laptop) benutzt**. Bitte geben Sie an, wie oft die Dinge passieren von "*nie*" bis "*sehr oft*".

	Nie (1)	Vielleicht schon 1-2 Mal (2)	Manchmal, vielleicht einmal alle paar Monate (3)	Oft, mindestens jedes Monat (4)	Sehr oft, mindestens jede Woche (5)
Helfen Sie Ihrem Kind, wenn etwas zu schwierig, oder schwer zu finden ist? (co_use_1)	○	○	○	○	○
Schlagen Sie Ihrem Kind Wege vor, wie man Mobilgeräte sicher nutzen kann? (co_use_2)	○	○	○	○	○
Haben Sie Ihrem Kind erklärt, warum manche Webseiten gut oder schlecht sind? (co_use_3)	○	○	○	○	○
Haben Sie mit Ihrem Kind besprochen, wie man sich anderen gegenüber online verhalten soll? (co_use_4)	○	○	○	○	○
Haben Sie mit Ihrem Kind darüber gesprochen, was er/sie tun kann, wenn ihn/sie online etwas verstört? (co_use_5)	○	○	○	○	○

Digital maturity scale

Was sind Mobilgeräte? Wir nutzen Mobilgeräte mehr als je zuvor. Aber was meinen wir eigentlich mit "Mobilgeräten"? Ein **Mobilgerät** ist ein elektronisches Gerät, das man leicht in der Hand halten kann und somit fast überall hin mitnehmen kann. Meist können

Mobilgeräte auch mit dem Internet verbunden werden. Die bekanntesten Mobilgeräte, die heutzutage nutzen sind: Handys (z.B. Smartphones), Tablets / iPads, Laptops Für diese Studie, denke bitte immer an solche Mobilgeräte, wenn du die Fragen beantwortest.

Autonomy Choice

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt. „Wenn ich ein Mobilgerät benutze…“

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
bin ich online, weil ich denke, immer online sein zu müssen (autonomy_c1)	○	○	○	○	○
bin ich online, weil ich sonst das Gefühl habe, irgendetwas zu verpassen (autonomy_c2)	○	○	○	○	○
habe ich das Gefühl, dass es mein Leben bestimmt (autonomy_c3)	○	○	○	○	○

Autonomy Within

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
suche ich mir die Inhalte aus, die ich sehen möchte (autonomy_w1)	○	○	○	○	○
tue ich das, was mir selbst Spaß macht (autonomy_w2)	○	○	○	○	○
entscheide ich selbst, was ich tue (autonomy_w3)	○	○	○	○	○

Literacy

Bitte gib an, wie sehr die folgenden Aussagen auf dich zutreffen, wenn du daran denkst wie du das Internet oder Mobilgeräte wie Handys, Tablets oder Laptops nutzt. Stelle dir vor, **wie sehr die Aussagen auf dich zutreffen**, wenn du die Dinge genau jetzt, alleine machen müsstest.

	Gar nicht (1)	Eher nicht (2)	Teils-teils (3)	Ziemlich (4)	Völlig (5)
Ich weiß, wie ich die Privatsphäre-Einstellungen anpassen kann (z.B. Cookies deaktivieren) (literacy_1)	○	○	○	○	○
Ich weiß, wie man die Privatsphäre-Einstellungen in sozialen Medien anpassen kann (z.B. Instagram, Snapchat, TikTok) (literacy_2)	○	○	○	○	○
Ich weiß, wie ich Fotos, Dokumente, oder andere Dateien in einer Cloud speichern kann (z.B. Google Drive, iCloud) (literacy_3)	○	○	○	○	○

Individual Growth

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du in Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
lerne ich neue Dinge (growth_1)	○	○	○	○	○
lerne ich nützliche Dinge (growth_2)	○	○	○	○	○
lerne ich neue Fähigkeiten (growth_3)	○	○	○	○	○

Risk Awareness

Bitte denke daran, **wie oft die folgenden Dinge normal passieren**, wenn du ein **Mobilgerät** (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
bin ich sehr vorsichtig (risk_1)	○	○	○	○	○
ist mir meine eigene Sicherheit sehr wichtig (risk_2)	○	○	○	○	○
achte ich darauf, vorsichtig zu sein (risk_3)	○	○	○	○	○

Negative Emotions

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du

ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
und ich online verärgert oder verletzt werde, dauert es lange, bis ich mich wieder besser fühle (emotion_n1)	○	○	○	○	○
und ich online verärgert oder verletzt werde, bleibe ich lange in einer schlechten Stimmung (emotion_n2)	○	○	○	○	○
und ich online verärgert oder verletzt werde, gibt es nur wenige Dinge, die mich wieder aufheitern (emotion_n3)	○	○	○	○	○

Aggressive Impulses

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
und mich jemand online oder in einer Nachricht kritisiert, reagiere ich sofort ohne vorher über die Konsequenzen nachzudenken (emotion_a1)	○	○	○	○	○
und mich eine Nachricht wütend macht, reagiere ich zu schnell und bereue es danach (emotion_a2)	○	○	○	○	○
und mich jemand beleidigt, versuche ich es ihm/ihr heimzuzahlen (emotion_a3)	○	○	○	○	○

Support-Seeking

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt. „Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
frage ich andere um Hilfe, wenn ich ein Problem habe (support_1)	○	○	○	○	○
und ich nicht weiterweiß, dann hole ich mir Hilfe von anderen (support_2)	○	○	○	○	○
und ich ein technisches Problem habe, frage ich andere um Hilfe (z.B. einen Freund/eine Freundin, Elternteil, Geschwister) (support_3)	○	○	○	○	○
und Probleme mit anderen im Internet habe, hole ich mir Hilfe (support_4)	○	○	○	○	○
Bitte wähle hier die Antwort "Niemals" aus, damit wir wissen, dass du den Satz gelesen und verstanden hast. (AttCheck_Child2)	○	○	○	○	○

Respect

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
achte ich auf meine Wortwahl, wenn ich mit jemandem nicht einer Meinung bin, um nicht gemein rüber zu kommen (respect_1)	○	○	○	○	○
achte ich auf die Gefühle von anderen Personen (respect_2)	○	○	○	○	○
und Bilder von anderen Personen poste oder verschicke, achte ich darauf, dass diese niemanden beleidigen oder in Schwierigkeiten bringen (respect_3)	○	○	○	○	○
respektiere ich die Meinung und das Wissen von anderen Personen (respect_4)	○	○	○	○	○

Digital Citizenship

Bitte denke daran, wie oft die folgenden Dinge normal passieren, wenn du ein Mobilgerät (z.B. Handy, Tablet, Laptop) benutzt.

„Wenn ich ein Mobilgerät benutze..."

	Niemals (1)	Selten (2)	Manchmal (3)	Oft (4)	Immer (5)
verwende ich es, um das Leben in meiner Umgebung, meiner Stadt oder in der Welt insgesamt zu verbessern (citizenship_1)	○	○	○	○	○
verwende ich das Internet, um Kampagnen, zum Beispiel für Umweltschutz, zu unterstützen oder um auf den Klimawandel mehr aufmerksam zu machen (citizenship_2)	○	○	○	○	○
verwende ich es, um mich für Dinge einzusetzen, die wirklich wichtig in der Welt sind (citizenship_3)	○	○	○	○	○

Instrumental device scale

	Stimme gar nicht zu (1)	(2)	(3)	(4)	(5)	teils-teils (6)	(7)	(8)	(9)	(10)	Stimme sehr zu (11)
Mobilgeräte helfen mir Aufgaben zu erledigen. (tool_1)	○	○	○	○	○	○	○	○	○	○	○
Mobilgeräte unterstützen mich im Alltag. (tool_2)	○	○	○	○	○	○	○	○	○	○	○
Ich sehe Mobilgeräte als nützliche Unterstützung an. (tool_3)	○	○	○	○	○	○	○	○	○	○	○
Mobilgeräte sind ein Hilfsmittel für mich, um Aufgaben zu bewältigen. (tool_4)	○	○	○	○	○	○	○	○	○	○	○
Mobilgeräte sind in erster Linie ein Mittel zum Zweck für mich. (tool_5)	○	○	○	○	○	○	○	○	○	○	○
Mobilgeräte sind nützlich, um meine Ziele zu erreichen. (tool_6)	○	○	○	○	○	○	○	○	○	○	○
Für mich sind Mobilgeräte vor allem ein nützliches Hilfsmittel. (tool_7)	○	○	○	○	○	○	○	○	○	○	○

Note: Items 5 and 7 were excluded after conducting a factor analysis.