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Digital Parenting: Raising and Protecting Children in Media World

Loredana Benedetto and Massimo Ingrassia

Abstract

Digital media have quickly changed ways in which parents and children communicate, enjoy themselves, acquire information, and solve problems daily (both in ordinary and exceptional circumstances such as COVID-19 home confinement). Very young children are regular users of smartphones and tablet, so their early digital engagement poses new challenges to parent-child relationships and parental role. First, the chapter introduces the "digital parenting" construct, moving through the literature from "traditional" parenting styles to more recent studies on "parental mediation," that is, the different behaviors parents adopt to regulate children's engagement with the Internet and digital media. Second, the chapter reviews empirical researches on different parental mediation practices (active or restrictive behaviors) and how they are adjusted according to the child's characteristics (age, digital competences, etc.) or parent's media competence and beliefs. Finally, from a bidirectional perspective of parent-child relationships, the chapter discusses the role of youths' social involvement, communication, self-disclosure, and digital skills on parent's beliefs and practices. Implications for parent education and prevention of risks for early and excessive exposure to digital technologies are discussed.

Keywords: digital technologies, parental practices, parental beliefs, children's digital literacy

1. Introduction

Children's experiences with digital technologies actually involve an increasing quote of young users (also defined as "digital natives") who are born and are developing in environments in which new digital technologies are widely available [1]. This currently occurs from early infancy, due to the rapid diffusion of touchscreen devices among younger children (or "touch generation"; [2, 3]). Children aged 2–4 years actually are able to use touchscreen devices, such as tablets or smartphones, to play or watch movies, and often parents themselves introduce kids to use them in boring social situations (i.e., in the pediatrician's waiting rooms or in the restaurant; [4]). On the basis of the most recent report on worldwide diffusion of the Internet among young people [1], one in three users is estimated to be a child or teenager (under 18). Generally children use digital technologies in their home, particularly younger children, with intense and prolonged activities especially on

weekends. Children often use their digital technologies at school at least a day a week (almost 30% among 9–11 years), although it is prohibited in many countries by school regulations. The access to digital technologies is expanding among young generations, even if many inequalities of resources remain between developed or developing countries [1]: for example, it has been estimated that in Africa (Ghana) children mainly use 0.9 mobile devices to connect to the Internet, against 2.9 in South America (Chile) or 2.6 in Europe (Italy). Similarly, only 12% of children in Africa (Ghana), 21% in the Philippines, and 26% in Albania can connect to the Internet at school, against 63–54% of children in other South America or European countries, such as Argentina, Uruguay, or Bulgaria. This reality raises several questions on how to guarantee the young generations the opportunities offered by new technologies (for studying, enhancing skills, socializing, etc.), protecting them from potential dangers of digitalized world (i.e., contacts with unknown people, exposure to violent/pornographic contents, etc.). In fact, although children grow in a reality permeated by new media, they are not automatically "digitally literate," that is, able to juggle the digital world and to reflect on it. Studies show that not only young users, but also teenager users "have difficulties in finding, managing and evaluating information, managing their privacy online and ensuring their online personal safety […]and may thus vary in their digital skills" ([5], p. 186).

Together with their children, parents themselves are largely exposed to media experiences in many fields of their life. Digital technologies have quickly changed the way in which family members communicate, enjoy themselves, acquire information, and solve daily problems. Parents are also the first mediators of children's experiences with digital tools: they have the task of integrating their use into ordinary routines (play, entertainment, learning, mealtime, etc.), promoting constructive and safety uses. *Digital parenting* describes parental efforts and practices for comprehending, supporting, and regulating children's activities in digital environments. A growing research on digital parenting identified the main approaches that can allow parents to "mediate" children's activities with digital technologies [6–8]. According to Vygotsky's theory of child development and his concept of *proximal development zone* [9], parental mediation can be considered a key aspect in facilitating the interactions between children and new media. The proximal development zone is an intermediate area between what the child is able to do alone and what he/she can learn thanks to the guidance of others. In the course of a shared activity, the support and the help are adapted so that the child can improve his/her skills and gradually assume responsibility for acting alone. However, the activities that take place in the *virtual environments* of the web, unlike the experiences in the *real* environments, can reverse the relationship between the competent person (the adult) and the learner (the child). Today's children have an early, almost "intuitive" approach to digital technologies, so in some cases they can become active agents towards their parents. When children's knowledge and digital competence (e.g., functions/benefits of a new app) overcome that of parents, many shared experiences can be child-initiated, and children can also perform some forms of support and digital teaching to parents. This *reverse socialization* [10] seems to be a peculiar feature of digital experiences, and it poses new challenges to parental role. Reverse socialization describes all situations where children possess a better understanding or more advanced skills than adults. This gap between generations is more marked in low-income families or low-educated parents who possess limited resources and access to digital technologies [11]. However, over the past years, many parents have developed adequate knowledge and technical skills to share digital experiences with their children [3, 12]; they appreciate benefits of the web and strive to comprehend its complexity.

A common difficulty that parents actually encounter derives from the diffusion of "portable" devices (smartphone and tablet) that children start to use in early infancy (under the age of 2; [13]). Later, due to unlimited Wi-Fi access and enhanced connectivity, children insert activities with mobile devices into many daily routines, for example, during mealtime, school homework, conversations with parents, or before sleeping [14]. Particularly, parents worry about the "pervasiveness" (or ubiquitous) of mobile technologies in daily activities [15], and they fear that an effective guidance and control over them may decrease. Studies with large samples of young digital users (9–16 years old) in many European countries have compared parents' opinions before (*2010 Eu Kids Online Survey*; [12]) and after (*Net Children Go Mobile*; [3]) the diffusion of mobile devices. After 4 years, many parents declare that they know less about their children's online activities and have more difficulties to closely monitor children's usage (e.g., time spent connected). Interestingly, parents now are more aware of the risks of using the web [16], and they prefer to talk to children about Internet security (e.g., do not leave personal data online or block unknown people) rather than limiting or prohibiting Internet use [17]. Parents can encourage or limit the use of digital technologies to children according to the opportunities or danger they attribute to them. Since parents themselves are regular, sometimes enthusiastic, users of digital media, their digital skills and confidence and daily frequency of usage (or overuse; [18]), together with beliefs about digital world [3], are all crucial factors that researchers have begun to explore systematically.

2. Parental beliefs

Each parent has beliefs, that is, convictions and personal opinions, regarding the usage of media by children, such as their usefulness or damage, or the age at which children should use them. Beliefs are the cognitive dimension of attitudes, guiding individual's behavior and choices. When parents raise their children, they act and make choices for them following their own perceptions of what is desirable or what they positively value for their child's development [19]. Although parents are not always aware of their beliefs, these influence parent-child interaction and the child's opportunity to learn, do experiences [20], and develop digital skills [5]. Parental beliefs are important aspects of parenting and family microsystem, together with factors such as parent's history and education, socioeconomic status, and culture.

Parents possess personal ideas about modern technologies: they can be considered a source of entertainment/relaxation or a learning tool [21, 22]; conversely, for other people, PC, tablet, and smartphone can be harmful to children's health (such as sleep problems, obesity, etc.; [23]), for social risks (such as contacts with unfamiliar or social isolation; [24]), or because they interfere with parent-child activities and time spent together [25].

A qualitative study [26] shows that parents have more pessimistic (70.55%) than optimistic opinions (29.45%) on the Internet use by primary school children: for example, parents worry about the excessive time spent online, the interference in face-to-face conversation, or that children lack of skills and maturity in dealing with some contents suitable for older children (such as violence, sex, or drug-related contents). Other worries concern negative consequences on learning and academic performance (i.e., reduced attention span), physical development (i.e., prolonged sedentary activities), social skills and peer interactions (i.e., fewer opportunities to "learn to play together"), and child's well-being (i.e., using smartphone to overcome boredom). Interestingly, many parents fear losing control over their children's online

behaviors. Conversely, the positive beliefs concern positive effects of digital technologies on child's entertainment, communication and learning, access to information, and enhancing of child's skills (such as brain functioning, self-regulation, autonomy, critical attitude, etc.).

Other researchers [27] explored parent's perceptions about positive (i.e., they are shared by generations) or negative impact (i.e., they expose family privacy to risks) of social media—such as Facebook or WhatsApp—on family open communication. Teenagers are intensely involved in social media use, but adults also are regular users. On the one hand, parents use social networks to communicate; on the other hand, they fear that they negatively impact family relationships, for example, through the phubbing phenomenon (i.e., ignoring someone or interrupting a conversation or mealtime to check the smartphone). Authors found that parents' perceptions are a meditational variable between the collective family efficacy (i.e., the perceived efficacy to manage family relationships, to support each other, etc.) and the openness of communication: "it is not only the actual impact of social media on family systems that matters but also parents' perceptions about it and how much they feel able to manage their children's social media use without damaging their family relationships" (p. 1).

Parental beliefs may influence the degree to which parents give opportunities or restrict their children's media use, but beliefs should not be considered the "cause" of behavior towards children. Researches show that parents' positive beliefs (e.g., "the tablet improves reading skills") are associated with favorable attitudes, co-using approach, communication, or suggestions to enhance their child's appropriate use of the Internet [28]. For example, when parents think that smartphones are useful tools (i.e., they promote child's intelligence and knowledge), they more often allow their preschool children to use them (i.e., at the restaurant), and children become regular users, spending more time (at least 2 h a day) with smartphone activities [29]. Conversely, parents who attribute negative effects to digital media tend to limit activities to children (i.e., put time limits or react for smartphone overuse); in turn, these restrictive behaviors can influence how much the children use these devices [28]. Therefore, the influences of parental beliefs on child's behaviors are not directed, but they are mediated by parental practices and other factors such as parental education or involvement with mobile device ("attachment"; see, e.g., [30]) that can intervene.

3. Parental media competence and self-efficacy

Parental beliefs include also self-efficacy [31, 32], that is, parent's sense of competence in their own digital skills and in managing their children's technology usage. An example of parental self-referent estimation of competence is "I won't bother setting parental controls or passwords because my kids will "hack" around them" (cfr. [33]). In many studies, parental self-efficacy is positively associated with active parental practices: when parents feel confident about their Internet skills, they more often are involved in or monitor their children's media activities [6]. Recently Shin [34] distinguishes general self-efficacy (the confidence to be a good parent; [35]) from two self-efficacy domains assessing parental beliefs more strictly related to digital tasks: parental "media competency" in using media technology (such as sending/receiving email with a smartphone) and "perceived control over mediation strategies" (the degree to which the parent feels to be able to guide or modify their children's behaviors on smartphone). All these domains of parenting self-efficacy are associated with each other [34], suggesting that perceived competence on their own digital skills can positively influence parents' involvement with children (e.g., discussing about smartphone use).

Sanders et al. [33] found that when parents are confident to have adequate digital skills, they more often intervene (i.e., with rules and reinforcement strategies) with their children. Parental self-efficacy also influences parental opinions about technologies and how they talk about them with children [33]. Moreover, parental perception of influence in managing technologies decreased with preadolescents that generally are seen as more self-regulated and reluctant to the parental control than younger children. These findings suggest the importance to recognize the influence of child characteristics (such as age, technology usage, perceived competence, etc.) on digital parenting.

4. Parenting approaches in children's digital engagement

4.1 Parenting style

Initially studies on parental engagement in children's activities with media assumed as theoretical basis the traditional parenting styles [36, 37]. According to Darling and Steinberg [38], parenting styles are defined as the context (or *emotive climate*) in which parents raise and socialize their children, and they are distinct from *practices*, that is, the distinct actions contingent to the child's behavior (e.g., scolding when the child uses the smartphone during mealtime). As it is well known, two main dimensions of the parent's behaviors, and their natural variations along a continuum, describe the styles: responsiveness/warmth (involvement, acceptance, and affect that the parent expresses towards the child's needs) and demandingness/control (rules, control, and maturity expectations for the child's socialization). Parenting styles derive from the combination of these variable dimensions: authoritative parenting (high warmth and high control, e.g., parents listen to the child's wishes, but they put clear limits to the child's behaviors); laissez-faire parenting (low warmth and low control; the parents are detached from the needs expressed by the child; they did not give rules or limits to child's behavior); authoritarian parenting (low warmth and high control; parents expect the child to obey; they neither discuss nor listen to the child's opinions and can react with harsh discipline); and permissive parenting (high warmth and low control; parents are very affectionate, but they lack in guidance through rules and give few limits to the child's behavior).

Studies that applied these "classic" parenting styles to children's behaviors with new communication media did not provide convincing results [39]. As an alternative to the "broad" parenting styles, a description of specific *media-related practices* is more useful in empirical studies for exploring the link between parental behaviors and child outcomes (e.g., time spent online). Therefore, researchers strove to identify the key dimensions of parental warmth/control more strictly referred to children's behaviors on the Internet or new media (**Table 1**). These Internet parenting styles are more strictly linked to children's actual use of digital technologies, for example, low parental control predicted more time of Internet usage by school-aged children [8].

Parenting style dimensions seem influenced by parents' individual characteristics such as gender, instruction, beliefs, or prior experiences with digital technologies. For example, in Valcke et al. [8] study, mothers are more controlling but also warmer than fathers, both dimensions associated with an authoritative style. In other studies, younger fathers and those who use the Internet more frequently with their teenagers are higher in control [40]. Parental instruction and experiences with digital technologies are other important variables: higher educated parents are more involved and high in control, probably because higher instructional levels also correspond to greater parents' competence with the Internet [8].

Style dimensions	Item (examples)
Parental control	Supervision: *"I'm around when my child surfs on the Internet"*
	Stopping internet usage: "I stop my child when he/she visits a less suitable website"
	Internet usage rules: "I limit the time my child is allowed in the Internet (e.g., only 1 h a day)"
Parental warmth	Communication: "I talk with my child about the dangers related to the Internet (costs, addiction to games, computer viruses, privacy violation, etc.)"
	Support: "I show my child "child friendly" websites (library, songs, crafts, school website, etc.)"

Table 1.
Dimensions of the internet parenting style (adapted from [8], p. 89).

The first studies explored parenting styles related to Internet usage *at home,* but more recently other authors explored the influence of digital parenting styles on children's usage of *mobile devices* (tablet and smartphone). Konok et al. [30] found that children (3–7 years old) who use the devices for more time every day have parents who are more permissive (e.g., they talk with children about applications on devices, but have low levels of demandingness), more authoritative (e.g., they give time limits, but they do not block the use because they expect the child to regulate himself), and less authoritarian (i.e., the parent restricts and prohibits mobile use). Interestingly, these parenting styles are also associated with parental beliefs about positive/negative consequences of early media usage: parents who have higher permissive or authoritative digital style declared more beneficial (i.e., skill improvement, entertainment, and early learning of digital skills) than negative effects (i.e., reduced time for other activities, developmental problems, and danger/addiction) for children's mobile usage.

Digital parenting styles change also according to children's characteristics, such as age [41], self-esteem [42], emotion regulation [43], or behavioral problems [44] that can intervene, mediating the link between parenting and children's actual behavior with digital technologies. Particularly, styles vary and accommodate with children's age: authoritative parents during infancy become more permissive with older children [41]. Overall, these findings reappraise the idea that there is a linear, cause-effect relationship between parenting and child outcomes on digital behaviors, but bidirectional and transactional parent-child influences [45] should be considered.

4.2 Parental mediation

Alternatively to digital parenting styles, many researchers adopted parental mediation as perspective for exploring parental influences on children's digital behaviors. Parental mediation refers to "the diverse practices through which parents try to manage and regulate their children's experiences with the media" ([7], p. 7). Parental mediation strategies were initially introduced in empirical studies as a potential factor influencing children's use of television [46] and videogames [47]. These studies, exploring how parents can effectively reduce excessive exposure or enhance children's self-regulated behaviors, inspired the following researches on digital technologies. Actually in literature two broad mediation approaches are distinct: *enabling* (or *instructive*) mediation and *restrictive* mediation [16]. These strategies are only partially similar to those parents who adopt "traditional" media: for example, co-viewing is a mediation strategy generally applied to television

use [48], but it is difficult to apply it to portable media (particularly, smartphone and tablet) that children often use alone or outside the home environment. As a consequence, parents can feel worried because they cannot effectively control their children's media use and involvement in digital life [11, 49].

The (a) *enabling mediation* is also defined as "active" or "instructive mediation" in that parents engage different activities with the aim to enhance their child's appropriate use of the digital technologies: for example, they explain to him/her how to use a media device, talk about the contents of new app/websites, or play a videogame together (*co-use* mediation). Nevertheless, in many empirical studies, (b) *co-use* (or co-viewing mediation) does not imply parent-child conversations, but the parent is present when the child displays the activity with the media without discussing the content [13]. The (c) *restrictive mediation* is characterized by a strict attention to rules and control to the child's digital activities: for example, parents decide when the child can have his/her tablet, pose time restrictions, or react when the child uses the smartphone too long. The (d) *technical restriction* is a particular kind of restrictive approach adopting software applications or other technical tools to control the child's activities (e.g., installing filters on PC for children's safety). Nevertheless, parents rarely use them and declare they prefer child-directed strategies, such as giving explanations or sharing the device [6].

Active mediation is the most frequent approach adopted in European families with 9–16 years old children, whereas restrictive mediation strategies are more common with younger children [16]. Interestingly, when children are interviewed about the mediation approach adopted in the family, they agree with their parents' responses [12].

All mediation strategies are linked with changes in children's digital behaviors, for example, less time exposure with online activities [12], or reduction of negative outcomes (i.e., aggressive behaviors, overuse, etc.; see [50]), but their efficacy is relative and it changes as a function of the child's development (i.e., age and digital skills) and his/her actual activity with media. Active mediation is linked with positive outcomes (such as social and cognitive skills), particularly with younger children (0–3 ages): for example, during video/movie watching, parents stimulate attention, comment, or pose questions to children, giving them occasions for language exposure and cognitive and digital learning [51]. Nevertheless, we cannot link children's outcomes uniquely to a distinct mediation strategy, since parent-child interactions are complex and many contextual or individual factors can intervene. Parents often use a combination of mediation strategies, and they change the mediation approach according to the activity the child is doing (e.g., using the tablet for school homework or for visiting Facebook; [11]).

Other authors explored the influence of family sociocultural factors. For mediation to be effective to guide children's experiences in the web, parents need to have themselves knowledge and skills of the new digital media (see Section 4 in this chapter). Particularly in conditions of sociocultural disadvantage, parents may lack basic digital skills [52], or they may not be able to explain to children how digital reality works and rapidly changes [53]. Unlike the traditional media (such as television or video game console), parents can give a difficult task to assure a help or guide children with the ever-changing technologies. Recently, Nikken and Opree [11] found that mostly low-educated, low-income, and single parents are likely to experience low competence and greater insecurity with new devices (such as electronic screen), declaring that it is difficult to apply co-use or active mediation strategies with their young children (1–9 ages). In addition, Warren and Aloia [49] found that when parents perceive high stress levels, the restrictive mediation and the discussions with children about contents and the use of media increase.

Parental mediation strategies may change according to their child's age and his/ her digital skills, but longitudinal studies are scarce in literature. Developmental changes have been observed from childhood to adolescence: active mediation strategies more often are adopted with younger children, whereas restrictive mediation fades with older and adolescents [17]. Parents generally expect greater autonomy and self-regulation skills from adolescents, and the influence of some parental strategies decrease over time: for example, the efficacy of restrictive strategies (i.e., rules for time or negative consequences for overuse) in reducing screen time decreases with older children [33]. From a developmental perspective, particularly the effects of restrictive approach are unclear. Some studies evidence that restrictive strategies (such as limiting access to media) are effective with younger children [6], but not with older kids. Adolescents can perceive parental control/limitations as a violation of their needs (i.e., self-determination, privacy, peer relationships, etc.) and react with increased online activities [54].

After all, parents wish their children can develop self-regulation, critical view, and awareness of opportunities or risks of digital technologies. In many studies, parental active mediation—for example, discussing with children issues such as cyberbullying, sexting, and online frauds—is more effective than restrictive mediation in reducing risks [16, 55]. Conversely, the efficacy of restrictive mediation must be considered relatively, since in literature both positive and negative associations with online risks emerge [56]. Mascheroni et al. [57] comment, "While restrictive mediation can be effective in reducing children's exposure to online risks, it has numerous side-effects, because it limits children's opportunities to develop digital literacy and build resilience and discourages children's agency within the child-parent relationship. Enabling mediation, instead, encompasses a set of mediation practices (including co-use, active mediation of internet safety, monitoring and technical restrictions such as parental controls) that are aimed at empowering children and supporting their active engagement with online media. The question is, then, how to ensure children's access to online opportunities while protecting them from potential harmful effects."

Interestingly, parents adopt their approach according to their child's competence in digital technology use (*digital literacy*). In line with a bidirectional model of parent-child influences [45], not only parenting influences child's behaviors, but also the child's actual behavior or perceived digital competence influences parental behaviors. Generally, restrictive mediation strategies are more often adopted with less digitally skilled children, but this approach could be counterproductive: limiting online activities for protecting the child from risks, in turn, can deprive him/her to opportunities for developing adequate digital skills [5]. Conversely, parents more often use active mediation strategies (e.g., they share experiences or talk about media) with skilled children than with children who have scarce competencies [58].

5. Parental worries about children's online activities

The predominance of online activities in the life of many children often worries parents, who observe that spending much time online removes children from face-to-face relationships and social activities. Empirical studies confirm the negative effects of Internet unsuitable use on social participation, since high levels of online activities are associated with few friends, reduced offline relationships [59], and increased loneliness [60]. Particularly loneliness, that is, social isolation and lack of intimacy with close friends, was found to be strongly associated with Internet excessive use [61]. However, causal relationship between Internet excessive use and loneliness is still under investigation [62], in an attempt to understand if loneliness

can be the antecedent or the consequence of the individual's excessive involvement with Internet activities. Two alternative hypotheses have been proposed to explain the link between poor social involvement, feeling lonely, and the development of problematic Internet use in children. According to the first hypothesis, loneliness is one of the main antecedents of excessive online activities, together with low self-esteem, poor social skills, social anxiety, and frequent conflict with parents. Some authors (e.g., [63]) hypothesized that adolescents who feel lonely or experience high anxiety in face-to-face social situations may use social networks and online exchanges more frequently than non-lonely adolescents. According to this "compensation hypothesis," they are increasingly involved in Internet activities that provide alternative experiences for social life. The second hypothesis assumes that time spent online causes loneliness and social withdrawal, isolating and depriving people of real social experiences. Therefore, loneliness can be considered as a possible outcome of Internet overuse [64], like when prolonged activities online reduce time spent with family and friends. Finally, there are studies that did not confirm the link between loneliness and Internet problematic use [65] or that evidence some positive consequences on individual socioemotional well-being. For example, contradicting the assumption that using the web impoverishes social life and increases isolation, in some studies higher levels of Internet activities are positively associated with social connection and perceived support. Unfortunately studies with children and adolescents are still lacking, but the attention among researchers is growing [60, 66].

Given the paucity of research with adolescents, we conducted an unpublished study[1] to explore the relationships among excessive Internet use, preferred online activities, and adolescent's perceived loneliness. In addition, we hypothesized that among adolescents better parent-child communication and higher parental emotional availability were positively related with less time spent online and less frequent online activities. In fact, studies indicate that parent-child communication and parental involvement play a protective role to excessive online activities [67]. A community sample of 177 high school students (66% females), aged 16–22 years old (M = 18, DS = 1.01), completed a questionnaire measuring the sense of loneliness (UCLA Loneliness Scale; [68]) and the Compulsive Internet Use[2] Scale (CIUS, [69]) for assessing problematic involvement in Internet activities. Daily frequency of favorite online activities (chatting, e-mailing, visiting social networking sites, listening to music, watching videos, playing online games, etc.) was also measured. Regarding parenting factors, adolescents filled out (a) the Lum Emotional Availability of Parents questionnaire (LEAP; [71]) assessing adolescent's perception of parental responsiveness, sensitivity, and emotional involvement and (b) two scales (derived from [70]) measuring the frequency of communication (how often the adolescent communicates with parents about his/her online activities) and the quality of parent-child communication (the adolescent feels understood, or comforted, or taking seriously from parents when he/she talks about Internet activities). In our study loneliness was not associated with Internet compulsive use

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[1] The data of this research were collected by Gabriella Famà for her degree thesis in Psychology (2013–2014): *Internet in adolescenza: benessere o solitudine? Il ruolo della disponibilità emotive e del monitoring genitoriale* [*Internet in adolescence: well-being or loneliness? The role of emotional availability and parental monitoring*]. University of Messina (Italy).

[2] According to accepted criteria, compulsive internet use (CIU) is defined by the following characteristics [69]: "(1) continuation of internet use despite the intention or desire to stop or cut down; (2) experiencing unpleasant emotions when internet use is impossible; (3) using the internet to escape from negative feelings; (4) internet use dominating one's cognitions and behaviors; and (5) internet use resulting in conflict with others or in self-conflict" (see [70]. p. 78).

(CIUS scores), but with *specific* online activities. Adolescents with higher loneliness levels reported higher frequency of music listening, but they declared less access to social networks (such as Facebook). This result contradicts the hypothesis of *social compensation* assuming that the teenagers use online exchanges to replace the sense of loneliness in real life [61]. An alternative explanation, proposed by others [72] is that a process downward with a "spiral pattern" is activated: loneliness leads to a decrease in social involvement which in turn increases the sense of isolation. Interestingly, those who spent more time online and were problematic users (higher CIUS scores) were more frequently involved in solitary activities, such as watching videos, listening to music, playing games offline, and visiting social networking sites. Perceived emotional availability from the father (but not from the mother) was negatively related with time that adolescents spent online. Teenagers who perceived greater emotional availability from both parents used the Internet more often for working on school projects and homework or doing search. A better quality of communication with parents is associated with less use of the Internet for gambling and online games. Overall these results confirm a virtuous relationship between quality of family communication, emotional availability of parents, and productive use of the web.

6. Family communication and parental consistency for preventing risks

An interesting evidence emerging from empirical literature is the protective role of parent-child communication for preventing Internet unsuitable use in children [73]. Conversely, Internet excessive use is associated with low quality of communication in the family [74]. Particularly with teenagers, the open and effective parent-child communication is a key dimension of family relationships and climate. Assuming a bidirectional perspective of adolescent-child influences, some authors focus on the role of youths' self-disclosure and spontaneous communication on parenting. Stattin and Kerr [75] claim that parental efforts to monitor adolescent's activities or to discuss about them are ineffective if teenagers do not trust their parents and if they are not willing to open up spontaneously. Parental monitoring on children's activities can be less effective when it is *parent-driven* (e.g., the parent tries to follow the child's activities on Facebook) than when it is *child-driven*, that is, activated by children's *self-disclosure* and open communication. Conversely, when parents try to control teenagers' online communication (e.g., the friends on Facebook, the photos posted on Instagram, etc.), parent-child conflicts increase, and adolescents can perceive parental behaviors as an obstacle to their autonomy or an intrusion to privacy [76].

Van den Eijnden et al. [70] identify two key dimensions of parent-child communication about children's digital behaviors. The first parenting practice refers to the *frequency of communication* about Internet usage (e.g., "How often do you and your parents talk about who you have Internet contact with?"), whereas the *quality of communication* about Internet use measures adolescent's perception of mutual respect and acceptance during conversation ("When my parents and I talk about my Internet use, I feel taken seriously"). Authors explore how these parental behaviors, together with other Internet-specific parental practices (rules about time online, rules about contents, reactions to excessive use), link to compulsive Internet use (CIU) in adolescents. Findings from their longitudinal study are particularly interesting, showing a protective effect of the quality of communication, but *not* of frequency of communication, on the risk of developing CIU. In other words, a good quality of parent-child communication about the use of Internet decreased the risk of CIU (6 months later), whereas this relationship was not observed for the frequency of parent-child exchanges about adolescent's online activities. Authors

discuss these findings by highlighting the *bidirectional* nature of parent-child influences. When adolescents show compulsive Internet behaviors, the frequency of parent-child communication decreases. Probably gradually parents get discouraged and give up the idea of achieving a positive change in their child's problematic behaviors through frequent conversations.

Regarding the parental rules about online activities, studies evidence some mixed results. When parents give their children rules about the content of the Internet, the compulsive use of web decreases; conversely, strict rules about time allowed for online activities seem to be counterproductive, linking to compulsive Internet behaviors in children [70]. Moreover, considering the child's influences on parent's behaviors, it is possible that when the child remains connected online without time limits, her/his behavior in turn stimulates stricter rules by parents. Other studies evidence that parental rules about Internet use are less influential on their children's behaviors than their parents' behaviors. Liu et al. [77] found that when parental behaviors are *consistent* with parental rules regarding digital technologies and the Internet (e.g., the smartphone must not be used during mealtime, personal data cannot be given online, etc.), the rules negatively predict Internet problematic use in adolescents. This result reminds us the importance of educational consistency (i.e., rule-behavior agreement) from parents. Conversely, when parental rules and parental behaviors do not agree, *only* the parents' behaviors are positively predictive of children's excessive Internet use. According to social learning theory [78], a parental modeling process intervenes, that is, an observational learning in which the parent's behavior acts as antecedent for similar behavior in the child. Therefore, parents act as a role model for their children's digital behaviors, and young children learn how and under what circumstances to use a mobile, for example, the smartphone, observing parents' activities with that device. Interestingly, studies show that the time parents spend with computers positively relates with time spent by their children [79]. Similarly, parental involvement in favorite Internet activities (visiting social networking sites, video streaming, etc.) is positively associated with the same activities engaged by children. In addition, as some researchers remind us "it is not only overt parental behavior (i.e., digital device use) but also attitudes and emotions that can be modelled for children to imitate" ([30], p. 4). Taken together, these findings suggest that parents' agreement and modeling of adequate behaviors are crucial factors for promoting self-regulation and safety use of digital technologies in young children.

7. Conclusions

Today's reality is widely digitized, and it offers people of all ages opportunities for socialization, amusement, learning, job, and knowledge that were unthinkable until a few decades ago. Precisely in the weeks in which the authors were engaged in the revision of this chapter, COVID-19 pandemic was involving more than 130 countries in the world. The lockdown and restrictions at home quickly changed daily activities of children and parents, transferring to the screen of the devices many activities previously carried outdoor (school lessons, play with peers, etc.). It is still too early to know what impact the epidemic will have on children's physical and mental health, but the attention of professionals and researchers is not lacking [80]. Surely during COVID-19 screen time has increased exponentially in the families: in some ways for the parents it was a relief, because through the Internet children continued their school courses and contact with peers. In addition, children avoided boredom through videogames or website dedicated to music, creativity, etc. On the other hand, the intensive online activities have renewed parents' concerns about

the well-known risks [23, 81], such as increased sedentary and physical inactivity, prolonged use at night, sleep disorders, isolation, and escape in digital world by teenagers.

Following social distancing and the temporary closure of schools for limiting COVID-19 infection, the Ministries of Education in many developed countries quickly activated online courses and other websites for distance learning. These online solutions have the aim to guarantee children's right of instruction but also to mitigate the negative effects of home confinement [82]. However, online courses shift the teaching from school to home and make the parents a resource for support and effective learning. The question is: what can be the role of parental mediation and digital competence? As the authors know, there are no empirical studies on this topic, but previous studies with primary school children showed negative associations between parental control, interference in homework, and children's learning [83]. Currently, in many cases teachers expect parents to ensure that their children connect on time and follow the video lessons, so parental support could be useful, but tensions and parent-child conflicts can also occur. There is also the risk that parents may help children, interfering with digital learning or impeding them from carrying out the assigned activities independently. Close attention and research effort are needed for comprehending how this aspect of digital parenting works, supporting parents in their efforts and ensuring a good home learning to children.

In line with the available studies before COVID-19 [4], we believe that during lockdown the digital activities satisfy children's basic psychological needs, such as socialization and emotional support by the family (grandparents and cousins) and other significant people (teachers and peers). Social media facilitate the expression of emotions (such as fear and sadness), self-disclosure, and the keeping of romantic relationships by adolescents particularly [84]. Video calling and regular contacts through smartphone have been recommended as an important source of reassurance in the cases of isolation of the caregiver or family due to prevention of COVID-19 infection or recovery [85].

What probably becomes necessary in the time of COVID-19 is a renegotiation of family routines, that is, a balance between screen time and other moments of family life. In this regard, the WHO [85] recommends that parents maintain regular routines for children (school/learning, free time/relaxing, bedtime, etc.) and also to create new opportunities for joint activities (such as co-use for creative, amusing, or physical activity in front of the screen). With young children, many shared activities offer also a context to express and communicate their feelings (both fears and wishes) in a supportive parental relationship. Even in actual COVID-19 circumstances, we believe that parental behaviors (such as self-limiting screen time for smart working, chatting, or gaming) are more influential than restrictive mediation or limitations imposed to children.

Having the digital knowledge and the skills to move in the digital world, without suffering the dangers, is not a matter of age, but of education and learning, that is, *digital literacy*. It is a serious responsibility towards the new generations and a complex challenge for which the adults (parents, teachers, psychologists, or educators) do not feel prepared. As Martin ([86], p. 135) reminds us: "Digital literacy is the awareness, attitude and ability of individuals to appropriately use digital tools and facilities to identify, access, manage, integrate, evaluate, analyze and synthesize digital resources, construct new knowledge, create media expressions, and communicate with others, in the context of specific life situations, in order to enable constructive social action; and to reflect upon this process." Currently, parents' difficulties stem from the fact that they—as digital users—have different levels of involvement, technical skills, and beliefs that influence mediation practices towards their children. If parents feel less skilled or worry about unknown dangers of the

web, they could activate more restrictive practices, but rarely they will be able to critically discuss with their children in a constructive manner. In addition, parents believe not to be up to their children in juggling in the digital world, in pursuing technological innovations, or in protecting children from danger or media abuse. Sometimes parents consult the websites for suggestions on how to effectively manage kids in their digital activities, but information disseminated through the websites is not always scientifically founded (*fake news*). The researcher Danah Boyd [87], in describing the complexity ("It's complicated") of teenagers' life on the web, claims that the media magnify the virtues (the "superpowers") of digital natives, but at the same time they trigger parental fears talking about serious dangers such as Internet addiction, sexual enticement, or incitement to suicide. Conversely, rarely parents turn to professionals for advice. A study [28] conducted with families of very young children (under 7 years) shows that parents choose the type of help (professionals such as pediatricians, or friends and family) based on the child's problems and his/her digital activities. The professionals are consulted if the child is an only son or he/she uses the media too long. Parental sense of competence in managing the child's activities increases if parents are confident of the usefulness of the media (e.g., educational games for learning) and if there are more kids in the family. Parents turn to friends and family for advice when they have a negative view of the effects of the media. This result makes us reflect, but unfortunately there are not many similar studies.

A correct parental mediation of children's digital activity must build on the information and recommendations that come from the scientific community. The American Academy of Pediatrics [2] has taken a clear stance for prudent and moderate use of the web in infancy (0–5 years) and has prohibited touchscreen device use under the age of 2. The careful use of these devices at such an early age is crucial for the infants' brain and social development. However, in contrast to these professional recommendations, often parents themselves introduce babies to media use during infancy (e.g., to "take calm" the kid, or to stop whims and cry; [30]). Young children spent daily an amount of time with screen media (iPod, smartphone, video game player, etc.) that grows during infancy (42 min under 2 years and 2 h/39 min at 2–4 years, respectively; [88]). The risks for excessive screen exposure are extensively confirmed in literature and particularly the negative consequences for early users who may present physical problems (such as obesity), developmental difficulties (i.e., language or learning), and unhealthy routines (low sleep quality) (**Figure 1**).

The recommendations for effective parental mediation on children's digital activities are unequivocal [2]: (a) avoid the use of digital devices before 18–24 months with the exception of *video chatting* in the presence of the parent; (b) do not allow the child (18–24 months older) to use the devices alone and for more than 1 h a day; (c) do not press for an early use, the child will spontaneously approach the media when ready; (d) help the child apply what he/she learns from using the device to the real world; (e) know that in infancy, direct experiences, manipulation, and unstructured play are crucial for the child's brain and for social, cognitive, and linguistic development; (f) void the vision of fast programs, with too many distracting elements, or violent contents that the child is unable to understand; (g) avoid using devices to calm the baby, an hour before bedtime; and (h) constantly monitor the media contents to which the child is exposed. Finally, the experts (pediatricians and psychologists) turn also to the industry that produces media devices, so that it adopts a scientifically founded and more ethical approach, for example, installing apps (such as connection stop or automatic shutdown during night hours) that can protect very young children from the risks of overuse.

Therefore, parent education interventions are necessary both to disseminate scientific knowledge on the influence of new technologies on children's health and
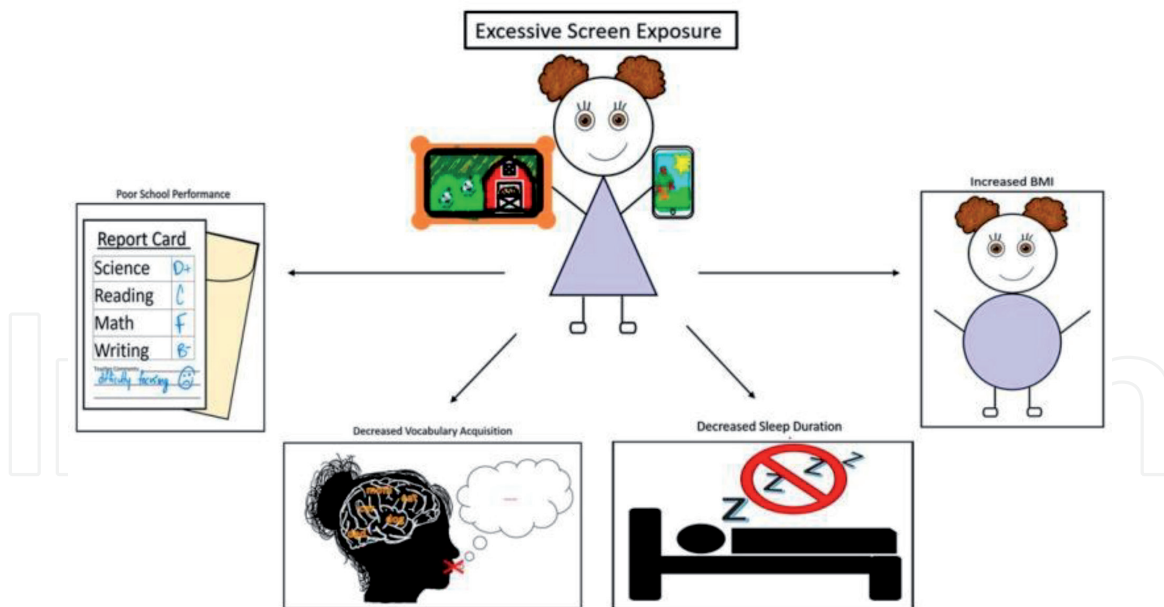
Figure 1.
Developmental risks associated with excessive media exposure (from [88]).

development and to help parents to cope with the challenges of digital reality. Parent education cannot be reduced to merely correcting ineffective parenting practices or to a list of instructions on what the parent should do. In fact, all studies indicate that the effectiveness of mediation strategies (restrictive or active approach) is relative, because parental practices interact with the characteristics of both adults (digital skills, beliefs, and activities on the media) and children (age, development, digital literacy skills, etc.). Instead, professionals should help parents to improve and adjust their guidance according to children's age and developing skills. This is possible to be realized if parents also increase their knowledge and digital skills (*media literacy programs*), given the importance of these factors in parenting. Less skilled parents, or those who fear the unknown pitfalls of the web, are more likely to intervene only on restricting or prohibiting children's activities. Conversely, "it is likely that more skilled children and parents are more free to explore and benefit from online opportunities, while also building up resilience against harm by meeting a degree of online risk" ([16], p. 19).

Digital parenting is a very complex and "complicated" task not only because the digital technologies rapidly change, but also because they offer children multiple experiences (learning, communication, socialization, entertainment, etc.) that influence their development, but which are not entirely overlapping to the experiences that take place in the real environment [89]. Particularly, digital natives have the opportunity to know the reality and themselves, developing their own identity [76], with a multiplicity of means and without the supervision of the traditional agents of socialization, primarily the parents (or the teachers). With the awareness of how difficult it is to give definitive answers about the advantages or dangers of digital technologies, more effort is needed from researchers. More evidence-based studies are needed, to understand how technological progress is changing the psychological (neurocognitive, emotional, and social) development of young digital users. However, despite the growing diffusion of digital tools in infancy, studies with very young children are still lacking. Particularly, future research could benefit from longitudinal studies to which to explore the relationships between parenting and children's experiences in digital environments, their opportunities, or risks.

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References

[1] Livingstone S, Kardefelt WD, Hussein M. Global Kids Online: Comparative Report. Florence: UNICEF Office of Research – Innocenti; 2019. Available from: www.unicef-irc.org/publications/1059-global-kids-online-comparative-report.html

[2] American Academy of Pediatrics (AAP), Council on Communications and Media. Media and young minds. Pediatrics. 2016;**138**(5):e20162591

[3] Mascheroni G, Cuman A. Net Children Go Mobile: Final Report (Deliverables D6.4, D5.2). Milano: EDUCatt; 2014. Available from: http://netchildrengomobile.eu/reports/

[4] Mascheroni G, Ólafsson K. Net Children Go Mobile: Risks and Opportunities. 2nd ed. Milano: EDUCatt; 2014. Available from: http://netchildrengomobile.eu/reports/

[5] Rodríguez-de-Dios I, van Oosten JMF, Igartua J-J. A study of the relationship between parental mediation and adolescents' digital skills, online risks and online opportunities. Computers in Human Behavior. 2018;**82**:186-198

[6] Livingstone S, Helsper E. Parental mediation and children's internet use. Journal of Broadcasting & Electronic Media. 2008;**52**:581-599

[7] Livingstone S, Mascheroni G, Dreier M, Chaudron S, Lagae K. How Parents of Young Children Manage Digital Devices at Home: The Role of Income, Education and Parental Style. London: LSE (EU Kids Online); 2015

[8] Valcke M, Bonte S, De Wever B, Rots I. Internet parenting styles and the impact on internet use of primary school children. Computers in Education. 2010;**55**:454-464. DOI: 10.1016/j.compedu.2010.02.009

[9] Vygotsky LS. Thought and Language. Cambridge, MA: MIT Press; 1986

[10] Grossbart S, McConnell-Hughes S, Pryor S, Yost A. Socialization aspects of parents, children, and the internet. Advances in Consumer Research. 2002;**29**:66-70

[11] Nikken P, Opree SJ. Guiding young children's digital media use: SES-differences in mediation concerns and competence. Journal of Child and Family Studies. 2018;**27**:1844-1857

[12] Livingstone S, Haddon L, Görzig A, Ólafsson K. Risks and Safety on the Internet: The Perspective of European Children. Full Findings. London: EU Kids Online, LSE; 2011

[13] Coyne SM, Radesky J, Collier KM, Gentile DA, Linder JR, Nathanson AI, et al. Parenting and digital media. Pediatrics. 2017;**140**:S112. DOI: 10.1542/peds.2016-1758N

[14] Mustafaoğlu R, Zirek E, Yasacı Z, Razak Özdinçler A. The negative effects of digital technology usage on children's development and health. Addicta: The Turkish Journal on Addictions. 2018:13-21. DOI: 10.15805/addicta.2018.5.2.0051

[15] Radesky JS, Eisenberg S, Kistin CJ, Gross J, Block G, Zuckerman B, et al. Overstimulated consumers or next-generation learners? Parent tensions about child mobile technology use. Annals of Family Medicine. 2016;**14**(6):503-508. DOI: 10.1370/afm.1976

[16] Livingstone S, Ólafsson K, Helsper EJ, Lupiáñez-Villanueva F, Veltri GA, Folkvord F. Maximizing opportunities and minimizing risks for children online: The role of digital skills in emerging strategies of parental mediation. Journal of Communication. 2017;**67**:82-105

[17] Livingstone S, Mascheroni G, Ólafsson K, Haddon L. Children's Online Risks and Opportunities: Comparative Findings from EU Kids Online and Net Children Go Mobile. London: London School of Economics and Political Science; 2014. Available from: www.eukidsonline.net and http://www.netchildrengomobile.eu/

[18] Hwang Y, Jeong S-H. Predictors of parental mediation regarding children's smartphone use. CyberPsychology, Behavior, & Social Networking. 2015;**18**:737-743

[19] Goodnow JJ, Collins WA. Development According to Parents. The Nature, Sources and Consequences of parents' Ideas. Hove, West Sussex: Lawrence Erlbaum; 1990

[20] Benedetto L, Ingrassia M. Le credenze dei genitori sullo sviluppo e sull'educazione dei figli [Parental beliefs about development end education]. In: Bacchini D, editor. Il Ruolo Educativo Della Famiglia. Trento: Erickson; 2013. pp. 43-66

[21] Takeuchi L. Families Matter: Designing Media for a Digital Age. New York: The Joan Ganz Cooney Center at Sesame Workshop; 2011

[22] Vaala S, Hornik R. Predicting US infants' and toddlers' TV/video viewing rates: Mothers' cognitions and structural life circumstances. Journal of Children and Media. 2014;**8**:163-182. DOI: 10.1080/17482798.2013.824494

[23] Fuller C, Lehman E, Hicks S, Novick MB. Bedtime use of technology and associated sleep problems in children. Global Pediatric Health. 2017;**4**:1-8. DOI: 10.1177/2333794X17736972

[24] Rotondi V, Stanca L, Tomasuolo M. Connecting alone: Smartphone use, quality of social interactions and well-being. Journal of Economic Psychology.

2017;**63**:17-26. DOI: 10.1016/j.joep.2017.09.001

[25] Duimel MI, Meijering I. Professionals en ondersteuning bij media opvoeding [Professional and Support for Parental Mediation on Media Use]. Utrecht: Netherlands Youth Institute; 2013

[26] Bartau-Roja I, Aierbe-Barandiaran A, Oregui-González E. Parental mediation of the internet use of primary students: Beliefs, strategies and difficulties. Communicar: Media Education Research. 2018;**545**:71-79

[27] Procentese F, Gatti F, Di Napoli F. Families and social media use: The role of parents' perceptions about social media impact on family systems in the relationship between family collective efficacy and open communication. International Journal of Environmental Research and Public Health. 2019;**16**:5006. DOI: 10.3390/ijerph16245006

[28] Nikken P, de Haan J. Guiding young children's internet use at home: Problems that parents experience in their parental mediation and the need for parenting support. Cyberpsychology: Journal of Psychosocial Research on Cyberspace. 2015;**9**:3. DOI: 10.5817/CP2015-1-3

[29] Cannoni E, Scalisi TG, Giangrande A. Indagine sui bambini di 5-6 anni che usano quotidianamente i dispositivi mobili in ambito familiare: Caratteristiche personali e contestuali e problematiche cognitive ed emotive [A survey of children aged 5-6 who use mobile devices on a daily basis at home: Personal and contextual characteristics and cognitive and emotional problems]. Rassegna di Psicologia. 2018;**35**(1):41-56

[30] Konok V, Bunford N, Miklósi A. Associations between child mobile use and digital parenting style in Hungarian families. Journal of

Children and Media. 2019:91-109. DOI: 10.1080/17482798.2019.1684332

[31] Bandura A. Self-efficacy mechanisms in human agency. American Psychologist. 1982;**37**:122-147

[32] Benedetto L, Ingrassia M. Parental self-efficacy in promoting children's care and parenting quality. In: Benedetto L, Ingrassia M, editors. Parenting: Empirical Advances and Intervention Resources. Rijeka: InTech; 2018. pp. 31-57

[33] Sanders W, Parent J, Forehand R, Sullivan ADW, Jones DJ. Parental perceptions of technology and technology-focused parenting: Associations with youth screen time. Journal of Applied Developmental Psychology. 2016;**44**:28-38

[34] Shin W. Empowered parents: The role of self-efficacy in parental mediation of children's smartphone use in the United States. Journal of Children and Media. 2018;**12**(4):465-477

[35] Johnston C, Mash EJ. A measure of parenting satisfaction and efficacy. Journal of Clinical Child Psychology. 1989;**18**:167-175

[36] Baumrind D. The influence of parenting style on adolescent competence and substance use. Journal of Early Adolescence. 1991;**11**(1):56-96

[37] Maccoby EE, Martin JA. Socialization in the context of the family: Parent-child interaction. In: Hetherington EM, Mussen PH, editors. Handbook of Child Psychology: Vol. 4, Socialization, Personality, and Social Development. New York: Wiley; 1983. pp. 1-101

[38] Darling N, Steinberg L. Parenting style as context: An integrative model. Psychological Bulletin. 1993;**113**:487-499

[39] Eastin M, Greenberg B, Hofschire L. Parenting the internet. The Journal of Communication. 2006;**56**:486-504. DOI: 10.1111/j.1460-2466.2006.00297.x

[40] Wang R, Bianchi S, Raley S. Teenagers' internet use and family rules: A research note. Journal of Marriage and Family. 2005;**67**:1249-1258

[41] Özgür H. The relationship between internet parenting styles and internet usage of children and adolescents. Computers in Human Behavior. 2016;**60**:411-424. DOI: 10.1016/j.chb.2016.02.081

[42] Yao MZ, He J, Ko DM, Pang K. The influence of personality, parental behaviors, and self-esteem on internet addiction: A study of Chinese college students. Cyber Psychology, Behavior, and Social Networking. 2014;**17**:104-110

[43] Yu JJ, Kim H, Hay I. Understanding adolescents' problematic internet use from a social/cognitive and addiction research frame work. Computers in Human Behavior. 2013;**29**:2682-2689. DOI: 10.1016/j.chb.2013.06.045

[44] Martínez I, Murgui S, Garcia OF, Garcia F. Parenting in the digital era: Protective and risk parenting styles for traditional bullying and cyberbullying victimization. Computers in Human Behavior. 2019;**90**:84-92

[45] Sameroff A. The transactional model. In: Sameroff A, editor. The Transactional Model of Development: How Children and Contexts Shape Each Other. Washington, DC: American Psychological Association; 2009. pp. 3-21

[46] Austin E. Exploring the effects of active parental mediation of television content. Journal of Broadcasting & Electronic Media. 1993;**37**:147-158

[47] Nikken P, Jansz J. Parental mediation of children's videogame

playing: A comparison of the reports by parents and children. Learning, Media and Technology. 2006;**31**:181-202. DOI: 10.1080/17439880600756803

[48] Valkenburg PM, Piotrowski JT, Hermanns J, de Leeuw R. Developing and validating the perceived parental media mediation scale: A self determination perspective. Human Communication Research. 2013;**39**(4):445-469. DOI: 10.1111/hcre.12010

[49] Warren R, Aloia L. Parenting style, parental stress, and mediation of children's media use. Western Journal of Communication. 2019;**83**(4):483-500. DOI: 10.1080/10570314.2019.1582087

[50] Collier KM, Coyne SM, Rasmussen EE, Hawkins AJ, Padilla-Walker LM, Erickson SE, et al. Does parental mediation of media influence child outcomes? A meta-analysis on media time, aggression, substance use, and sexual behavior. Developmental Psychology. 2016;**52**(5):798-812. DOI: 10.1037/dev0000108

[51] McClure ER, Chentsova-Dutton YE, Barr RF, Holochwost SJ, Parrott WG. Look at that! Video and joint visual attention development among babies and toddlers. Child Development. 2018;**89**(1):27-36. DOI: 10.1111/cdev.12833

[52] De Haan J. Late on the curve: Causes and consequences of differences in digital skills. In: Ferro E, Kumar Dwivedi Y, Ramon Gil-Garcia J, Williams MD, editors. Handbook of Research on Overcoming Digital Divides: Constructing an Equitable and Competitive Information Society. Hershey, PA: Information Science Reference; 2010

[53] Paus-Hasebrink I, Sinner P, Prochazka F. Children's Online Experiences in Socially Disadvantaged Families: European Evidence and Policy Implications. London: EU Kids Online, LSE; 2014

[54] Lwin MO, Stanaland JS, Miyazaki AD. Protecting children's privacy online: How parental mediation strategies affect website safeguard effectiveness. Journal of Retailing. 2008;**84**(2):205-217

[55] Shin W, Huh J, Faber RJ. Tweens' online privacy risks and the role of parental mediation. Journal of Broadcasting & Electronic Media. 2012;**56**(4):632-649. DOI: 10.1080/08838151.2012.732135

[56] Khurana A, Bleakley A, Jordan AB, Romer D. The protective effects of parental monitoring and internet restriction on adolescents' risk of online harassment. Journal of Youth and Adolescence. 2015;**44**(5):1039-1047. DOI: 10.1007/s10964-014-0242-4

[57] Mascheroni G, Ponte C, Jorge A. Introduction. In: Mascheroni G, Ponte C, Jorge A, editors. Digital Parenting. The Challenges for Families in the Digital Age. Göteborg: Nordicom; 2018. pp. 9-16

[58] Nikken P, Schols MJ. How and why parents guide the media use of young children. Journal of Child and Family Studies. 2015;**24**:3423-3435

[59] Deniz L. Excessive internet use and loneliness among secondary school students. Journal of Instructional Psychology. 2010;**37**:20-23

[60] Pontes HM, Griffiths MD, Patrão IM. Internet addiction and loneliness among children and adolescents in the education setting: An empirical pilot study. Aloma, Revista de Psicologia, Ciències de l'Educació i de l'Esport. 2014;**32**(1):91-98

[61] Subrahmanyam K, Lin G. Adolescents on the net: Internet use and well-being. Adolescence. 2007;**42**:659-677

[62] Kim J, LaRose R, Peng W. Loneliness as the cause and the effect of problematic internet use: The relationship between internet use and psychological well-being. Cyberpsychology & Behavior. 2009;**12**(4):451-455

[63] Weinstein A, Lejoyeux M. New developments in the psychobiology of internet and videogame addiction. The American Journal on Addiction. 2013;**20**:1-9

[64] Morahan-Martin J, Schumacher P. Loneliness and social uses of the internet. Computers in Human Behavior. 2003;**19**:659-671

[65] Bozoglan B, Demirer V, Sahin I. Loneliness, self-esteem, and life satisfaction as predictors of internet addiction: A cross sectional study among Turkish University students. Scandinavian Journal of Psychiatry. 2013;**54**:1-7. DOI: 10.1111/sjop.12049

[66] Erdoğan Y. Exploring the relationships among internet usage, internet attitudes and loneliness of Turkish adolescents. Cyberpsychology: Journal of Psychosocial Research on Cyberspace. 2008;**2**(2):4

[67] Jeong EJ, Kim DH. Social activities, self-efficacy, game attitudes, and game addiction. Cyberpsychology, Behavior and Social Networking. 2011;**14**:213-221. DOI: 10.1089/cyber.2009.0289

[68] Russell D, Peplau LA, Ferguson ML. Developing a measure of loneliness. Journal of Personality Assessment. 1978;**42**:290-294

[69] Meerkerk GJ, Van den Eijnden RJJM, Vermulst AA, Garretsen HFL. The compulsive internet use scale (CIUS): Some psychometric properties. Cyberpsychology & Behavior. 2009;**12**:1-6

[70] Van den Eijnden RJJM, Spijkerman R, Vermulst AA, van Rooij TJ, Engels RCME. Compulsive internet use among adolescents: Bidirectional parent-child relationships. Journal of Abnormal Child Psychology. 2010;**38**:77-89. DOI: 10.1007/s10802-009-9347-8

[71] Lum JJ, Phares V. Assessing the emotional availability of parents. Journal of Psychopathology and Behavioral Assessment. 2005;**27**:211-226. DOI: 10.1007/s10862-005-0637-3

[72] Van den Heuvel A, van den Eijnden RJJM, van Rooij AJ, van de Mheen D. Meeting online contacts in real life among adolescents: The predictive role of psychosocial wellbeing and internet-specific parenting. Computers in Human Behavior. 2012;**28**:465-472

[73] Kim KS, Kim JH. A study on adolescents' level of internet addiction by their perceived relationships with parents. Korean Journal of Human Ecology. 2003;**6**:15-25

[74] Krout R, Lundmark V, Patterson M, Kiesler S, Mukhopadhyay T, Scherlis W. Internet paradox: A social technology that reduces social involvement and psychological well-being? American Psychologist. 1998;**53**:1017-1031

[75] Stattin H, Kerr M. Parental monitoring: a reinterpretation. Child Development. 2000;**71**:1072-1085. DOI: 10.1111/1467-8624.00210

[76] Valkenburg PM, Peter J. Online communication among adolescents: An integrated model of its attraction, opportunities, and risks. Journal of Adolescent Health. 2010;**48**:121-127

[77] Liu QX, Fang XY, Deng LY, Zhang JT. Parent-adolescent communication, parental internet use and internet-specific norms and pathological internet use among Chinese adolescents. Computers in Human Behavior. 2012;**28**:1269-1275

[78] Bandura A. Social Learning Theory. Englewood Cliffs, NJ: Prentice-Hall; 1977

[79] Vaala SE, Bleakley A. Monitoring, mediating, and modeling: Parental influence on adolescent computer and internet use in the United States. Journal of Children and Media. 2015;**9**(1):1-18

[80] Jiao WY, Wang LN, Liu J, Fang SF, Jiao FY, Pettolello-Mantovani M, et al. Behavioral and emotional disorders in children during the Covid-19 epidemic. The Journal of Pediatrics. 2020;**S0022-3476**(20):30336-X. DOI: 10.1016/j.jpeds.2020.03.013. [Epub ahead of print, 2 April]

[81] Fischer-Grote L, Kothgassner OD, Felnhofer A. Risk factors for problematic smartphone use in children and adolescents: A review of existing literature. Neuropsychiatrie. 2019;**33**:179-190. DOI: 10.1007/s40211-019-00319-8

[82] Wang G, Zhang Y, Zhao J, Zhang J, Jiang F. Mitigate the effects of home confinement on children during the Covid-19 outbreak. The Lancet. 2020;**395**:605-658. DOI: 10.1016/S0140-6736(20)30547-X

[83] Benedetto L, Oliveri R. Qual è l'approccio efficace per i compiti a casa? Una ricerca con alunni di scuola primaria e con le loro famiglie [What is the effective approach to homework? A study with primary school students and their families]. Difficoltà di apprendimento. 2012;**4**:499-521

[84] Borca G, Bina M, Keller SP, Gilbert LR, Begotti T. Internet use and developmental tasks: Adolescents' point of view. Computers in Human Behavior. 2015;**52**:49-58

[85] World Health Organization (WHO). Helping Children to Cope with Stress During the 2019-nCov Outbreak. Available from: https://www.familylinks.org.uk/post/who-helping-children-cope-with-stress-during-the-2019-ncov-outbreak [Accessed: 14 April 2020]

[86] Martin A. DigEuLit European framework for digital literacy: A progress report. Journal of eLiteracy. 2005;**2**:130-266

[87] Boyd D. It's Complicated. The Social Lives of Networked Teens. London/New Haven: Yale University Press; 2014. Available from: http://www.danah.org/books/ItsComplicated.pdf

[88] Wolf C, Wolf S, Weiss M, Nino G. Children's environmental health in the digital era: Understanding early screen exposure as a preventable risk factor for obesity and sleep disorders. Children. 2018;**5**(2):31. DOI: 10.3390/children5020031

[89] Johnson GM. Internet use and child development: The techno-microsistem. Australian Journal of Educational & Developmental Psychology. 2010;**10**:32-43