

THE USE OF DIGITAL DEVICES IN CHILDHOOD AND ADOLESCENCE AND RELATIONAL PROBLEMS: BEYOND ADDICTION

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ABSTRACT:

In recent years, the problematic use of Information and Communication Relational Technologies (ICRT) has been a source of enormous social concern. The omnipresence of digital devices and the expansion of social media platforms have entailed a paradigm shift for relationships, for both adults and adolescents, transforming them into a critical context for the latter's biopsychosocial development. Despite the undeniable benefits and opportunities inherent to the ICRTs, they are not innocuous. On the one hand, their intensive use by adolescents is a risk factor in itself, which can be amplified by a lack of parental mediation on behalf of their families. In this sense, if we understand the use as a continuum, ranging from a healthy and adaptive use to a compulsive and potentially addictive use, it is necessary to associate the latter with the potential impacts it may have on other important areas of adolescents' lives. The emergence of ICRTs has shifted the paradigm of relationships among youth, wherefore online interactions can influence how they build relationships and the depth of their personal connections, with excessive use being both the cause and the solution to various problems. In this way, the use of technology becomes intertwined with other basic areas of adolescents' personal, academic, and family functioning. This chapter will review the relationships established in the scientific literature regarding addictive problems and technology use (e.g., problematic use of the Internet, social networks, Internet

Gaming Disorder, or even pathological online gambling) with other relational spheres such as bullying, cyberbullying, sexting, online grooming, or parental mediation. Given the nature of these relationships and the high degree of overlap between these issues, clearly the use of technology must be addressed as a fundamental element in the adolescent socialization process. Therefore, prevention programs must be implemented holistically, taking into account the complexity of adolescence and always based on evidence.

KEYWORDS:

Problematic Internet use, Internet gaming disorder, cyberbullying, sexting, coexistence

1. FROM ICT TO ICRT: IMPORTANCE OF THE RELATIONAL FACTOR

There is no doubt, in recent decades information and communications technologies (ICTs) have transformed people's lives, offering countless opportunities and benefits in diverse areas such as education, work, healthcare, and entertainment. Its relevance in daily life is indisputable, especially among adolescents, who have grown up in an environment where access to digital devices and connection to the Internet are practically omnipresent. The use of ICTs facilitates access to a vast amount of information, fosters global communication, and provides platforms for learning and creativity. However, along with these benefits, the extensive and sometimes uncontrolled use of ICTs can entail significant risks, especially among youth. The problematic use of technologies, and more specifically the problematic use of social media or smartphones (Gámez-Guadix & Machimbarrena, 2025; Machimbarrena et al., 2023), has become a topic of growing concern among academics, educators and mental health professionals, as is shown in various chapters of this manual.

However, in this chapter we would like to highlight the relevance of the relational factor derived from the use of technologies. Not in vain, in recent years it has led to the expansion of the term ICT towards ICRT (Information and Communication Relational Technologies), thus incorporating the "R-elational Factor" (Gabelas et al., 2012). This R-elational factor implies a double dimension: the competence dimension, which refers to the ability to create and maintain social ties, and the risk dimension, associated with the abuse and/or misuse of technology (Marta-Lazo & Gabelas, 2017). It also integrates cognitive, emotional and social elements, essential to life skills, which allow a person to achieve a certain physical and emotional well-being (Marta-Lazo & Gabelas, 2017). Cognitive skills include critical thinking, perception of norms and limits, and self-assessment. Emotional skills encompass emotional control, stress management, and conflict resolution, while social skills include expression, communication, assertiveness, collaboration, and empathy. Given all of the above, it may be affirmed that the concept of ICRT goes beyond that of ICT.

Along these lines, technologies not only provide information and enable communication, but also facilitate relationships. Currently, we see how adolescents use technologies to interact, with three out of four minors registered on a social network before the age of 14 (Andrade et al., 2021). Moreover, Márquez et al. (2025) report in the Digital Childhood Survey that 92.5% of children and adolescents aged 10–20 are registered on at least one social media platform, and nearly 76% are registered on three or more. Marta-Lazo and Gabelas (2016) propose a space of symbiosis and synergy produced by the fusion of both online and offline environments. This is clearly in line with the co-construction theory proposed by Subrahmanyam and Smahel (2011), which describes the interconnection and bidirectionality between the adolescents' physical, social and digital worlds, configuring a new ecosystem crucial to their psychosocial development. Adolescents must develop skills that enable them to form and maintain meaningful relationships with others (Valkenburg & Peter, 2009). Although these skills were once unique to face-to-face communication, in the digital age they are increasingly built around the Internet, social media, or online video games. Therefore, to optimize the opportunities offered by ICRTs, it is essential to train new generations to manage their potential distortions and associated risks (González-Cabrera & Machimbarrena, 2023).

2. RELATIONAL AND DYSFUNCTIONAL RISKS: AN INTEGRATIVE PERSPECTIVE

Given the above, we must point out that our children, adolescents, and youth live today within a multifaceted reality. For pedagogical purposes, we divide the risks to which they are exposed on the Internet as dysfunctional (due to the inadequate use that people make of technology, leading them to present problems and psychosocial consequences in different aspects of their life) and relational (which emerge from the necessary interaction with third parties, sometimes peers, other times adults and who may be known or unknown that cause relevant problems; González-Cabrera & Machimbarrena, 2023). As regards dysfunctional risks, some examples are already included in the DSM-5-TR, such as gambling and Internet gaming disorder (IGD). These two problems, primarily, have a criterion of clinically significant distress or impairment in social, occupational, or other important areas of functioning. This issue is clearly reflected in the ICD-11: "The pattern of gaming behavior results in significant impairment to a person's functioning in personal, family, social, educational, occupational or other important areas" (World Health Organization, 2020).

On the other hand, relational risks on the Internet such as cyberbullying, online partner abuse, online grooming, etc. impact the lives of many people, also generating high levels of deterioration or personal distress, reducing their quality of life and psychological well-being (Ortega-Barón et al., 2023). Therefore, and highlighting the relational factor in this chapter, we will address some of the consequences that the excessive use of

technology can have on relational issues. In this sense, we can ask ourselves: How can we make visible this connection between technological problems of a more dysfunctional nature and those of a more relational nature? We can give two illustrative examples, among many. The idea is to convey to the reader that Internet-related problems and risks require a comprehensive approach, since children and adolescents are exposed to multiple realities. Sometimes these risks lead to behavioral addictions, though in many other cases they do not lead to such an outcome, but rather manifest consequences in different areas of life. The first example would refer to the antisocial behavior that occurs in video games: flaming. This is antisocial behavior linked to a specific ecosystem such as video games (and e-Sports). This form of toxic behavior is associated with online gaming communities, which often use offensive or aggressive language to express their intense feelings of anger, frustration, or disappointment in certain gaming situations. This triggers several negative factors that affect the experience, well-being, and performance, creating an unpleasant gaming environment for other players. These problems can even lead to bullying at school (in the offline, face-to-face context, when they are classmates, for example) or cyberbullying (Arisanty & Wiradharma, 2022). Therefore, an environment clearly linked to a behavioral problem such as video games, which can lead to a disorder, has a purely relational component that affects, intertwines with, and impacts the quality of life and emotional well-being of those involved.

The other visual example would be a current case in Spain with the law enforcement operation known as “Biscottu”. An adult was arrested for cyber-deceiving two minors aged 8–9 with the intention of getting them to share explicit sexual content (coercive sexting) in exchange for virtual currencies to carry out microtransactions on a well-known video game platform (Onda Cero, 2024). This example also shows how an environment related to dysfunctional risks can become a scenario where potential relational risks of a sexualized nature occur (both sexting and online grooming). Furthermore, parental mediation (which will be discussed in subsequent pages) is key to avoiding these risks and protecting minors from some particularly sordid problems.

These two examples shed light on the complex interaction of risks, problems, and behavioral addictions that technologies can generate in our children and adolescents, mainly. Below, we will unpack some of these relational risks with the objective of presenting a different, broader, and unique perspective on this issue.

2.1 Bullying and cyberbullying

Peer victimization is a widely known and, unfortunately, common in our society, as it has been associated with physical, psychoemotional, and academic problems in adolescents (Moore et al., 2017), being one of the few educational problems that costs human lives (Cuesta et al., 2021) and a public health problem due to its prevalence (González-Cabrera, Montiel, et al., 2021). At the peak of this peer victimization is face-to-face school bullying. There is relative consensus on its definition, and is based on three key elements: power asymmetry, intentionality and repetition (Olweus, 2013). A

more literary definition of school bullying would be violent and intentional behavior that is repeated over time and implies an imbalance of power or strength between the aggressor(s) and the victim(s). However, the advent of technology has significantly expanded the dynamics of school bullying, extending its reach beyond the physical and temporal setting of schools.

Cyberbullying is a relational risk associated with Internet use in which, through ICRTs, one or more individuals impose violent behavior on their peers (Olweus, 2013). As with traditional bullying, cyberbullying is characterized by a marked power imbalance between the cybervictim and the cyberbully, repeated behaviors over time, and a clear intent to harm the other person. Due to its online nature and the omnipresence of social media, messaging apps, and other digital platforms, cyberbullying may proceed without interruption, even in the home. This paradigm shift means that victims can neither find refuge nor relief from the harassment, as it can occur anytime, anywhere, 24 hours a day, 7 days a week. Furthermore, digital technologies allow perpetrators to conceal their identity through the use of pseudonyms, which facilitates anonymity and can foster moral inhibition, diminishing the bullies' sense of responsibility for their actions. The ability to share harmful messages, compromising images or hurtful comments instantly with a wide audience, which can amplify the reach and emotional impact of cyberbullying, increasing the humiliation of victims and its bio-psycho-social consequences (Olweus, 2013). Additionally, content shared online can be difficult to eliminate completely, meaning evidence of cyberbullying can persist indefinitely, causing the victims long-term harm. In short, technology has made bullying more pervasive, anonymous, broader, and persistent, exacerbating its negative effects on those who experience it. Despite all that has been said, and the ubiquity of technologies, studies point to two relevant factors. First, cyberbullying is even less prevalent than traditional bullying (Pichel et al., 2022). Second, the clear overlap between both phenomena should be highlighted (Cosma et al., 2020).

Because cyberbullying is online in nature, it requires the use of technology and, therefore, can sometimes become problematic. Thus, several studies have highlighted this relationship between cyberbullying and various problematic uses of technology, such as Internet addiction, problematic Internet use (PIU), and IGD.

One of the most analyzed problems has been the general problematic use of the Internet, sometimes interpreted as addictive use of the Internet. One of the first studies to analyze this relationship was the longitudinal work of Gámez-Guadix et al. (2013). In this study conducted at two time points with 845 Spanish adolescents, cybervictimization at time 1 significantly predicted PIU at time 2. These results are especially relevant due to their longitudinal nature and could support the social compensation hypothesis (Valkenburg & Peter, 2009), according to which people tend to satisfy their social needs in the virtual world network when their social needs cannot be satisfied through face-to-face communication. In this way, to a certain extent, the Internet could act as a double-edged sword, being, on the one hand, the context for victimization, but, on the other, a means of escape from it. Along these lines, Andreassen (2015) hypothesizes

that people who find that social media can satisfy their needs could develop problematic use of social networks. In summary, teens may overuse the Internet or social media to compensate for social needs that go unmet offline. Consistent with these views, greater peer victimization significantly predicted higher incidences of problematic Internet, social media, or mobile phone use in several studies.

What seems clear is that these two problems are linked, and that both those who suffer from them are more likely to engage in problematic use, and those who engage in problematic use are more likely to be victims. Specifically, and in relation to the first affirmation, a study showed that cyber victims had an odds ratio (OR) of 4.1 more likely to report problematic use than uninvolved adolescents; while cyberbullies had an OR = 3.1 and cybervictim-aggressors an OR = 7.6 more likely to report it compared to uninvolved adolescents (Machimbarrena et al., 2021). As regards the second affirmation, another study found that presenting PIU is associated with being a victim of cyberbullying with an OR = 2.39, with being an aggressor with an OR = 3.68, and with being a cybervictim-aggressor with an OR = 3.26 (Feijóo et al., 2021).

In addition to the interest in the relationship between cyberbullying and PIU in general, it has also been analyzed in conjunction with specific problems such as IGD. Several cross-sectional studies have shown a positive association between cybervictimization and symptoms of IGD. For example, cybervictimization experiences could trigger the onset of problematic use of videogames and increase symptoms of gaming disorder (Gan et al., 2023). This would be in line with the social cognitive theory that explains how adolescents who suffer cybervictimization could resort to excessive or problematic gaming as a coping mechanism for the negative cognitions and emotions caused by cybervictimization (Bandura, 2001). However, there are also studies that postulate that IGD symptoms increase the risk of cybervictimization. Several mechanisms could hypothetically favor this increase. First, the online environment offers opportunities and anonymity, which makes it easier to access online video games and increases the likelihood of becoming a victim of cyberbullying. Second, IGD can lead to social isolation, causing adolescents to be highly dependent on online communities (Sublette & Mullan, 2012). This can be troubling, as there is also evidence that cybervictimization can occur in online gaming environments. Ballard and Welch (2017) found that of the 151 participants in a sample of massively multiplayer online game (MMOG) players, 52% reported frequently having been cybervictims and 35% having perpetrated cyberbullying within the MMOG itself. This underscores the interconnected nature of cybervictimization and IGD symptoms. Several studies have shown positive correlations between both problems. For example, a pioneering study with data collected in 2009 already contributed evidence that the perception of problems related to video games was associated with almost all aspects of poor social relationships, including problems in the case of school bullying (Rasmussen et al., 2015). Similarly, another study found that gamers classified as “potentially problematic” experienced and perpetrated more aggression both face-to-face and online against their peers (Šincek et al., 2017).

However, the direction of the relationship between cybervictimization and gaming disorder symptoms is complex, as suggested by the few longitudinal studies to date. In a two-time study, Neumayer et al. (2023) highlighted that traditional victimization and cybervictimization independently predicted changes in IGD at time two. Along the same lines, the study by Nie et al. (2024) found a strong relationship between cyber-victimization and gaming disorder symptoms among individuals.

2.2 Sexting and online grooming

Sexting, a term derived from the combination of “sex” and “texting,” refers to the sending, receiving, or sharing of sexually explicit content, often in the form of photographs, videos, or text messages, via electronic devices such as smartphones and computers. This phenomenon has gained relevance over the last decade, especially among adolescents, due to the increased use of digital technologies and social media.

Sexting can encompass a wide range of activities, from sending sexually explicit text messages to sharing nude or semi-nude photos or videos. According to Döring (2014), sexting can be classified into two main types: consensual sexting, where all parties involved agree to the exchange of material; and non-consensual sexting, where the content is shared without the permission of either party. The latter can lead to cyberbullying, extortion, or even unauthorized distribution of pornography. Wachs et al. (2021) also introduce the concept of coercive sexting to refer to the practice of creating or sending photos/videos with sexual content under coercion, that is, triggered by an underlying threat. Along these lines of sexualized risks, recent studies have begun to examine the relationship between electronic sexual victimization and pornography consumption. In a nationally representative Spanish sample of more than 4,000 adolescents, Águila-Otero and Pereda (2025) found that both experiencing and perpetrating electronic sexual violence were significantly more frequent among those who consumed pornography, particularly among girls. This finding reinforces the need to incorporate exposure to pornography into the framework of relational risks associated with intensive Internet use. The prevalence of sexting among adolescents varies depending on the studies and methodologies used. However, a meta-analysis conducted by Madigan, Ly, et al. (2018) suggests that approximately 14.8% of adolescents have sent sexts and 27.4% have received content of this nature.

The intersection between sexting and PIU manifests itself in various dimensions of adolescent behavior. The digital environment in which adolescents interact today facilitates not only communication and socialization, but also the development of risky behaviors. In fact, since adolescence represents a period of vulnerability, research affirms that teens are likely to engage in this type of risky behavior to show off and secure their social status. This could foster PIU, or problematic social media use and a higher prevalence of sexting among peers. It is also worth pointing out that sexting could be defined as a risk of self-exposure, since the person generates the content voluntarily (especially in consensual sexting), as part of a relationship between equals and, subsequently, this material can be used to harm them (González-Cabrera & Machimbarrena, 2022).

Several studies have identified a significant relationship between PIU and the propensity to engage in sexting. For example, Tamarit et al. (2021) found that the most significant predictor of sexting behaviors was Internet addiction. These results were replicated by Ragona et al. (2023) who found that social media addiction plays a role in determining sexting behaviors, motivation to do so, and reinforcing body image. Although several cross-sectional studies find similar results (Ruiz et al., 2021), the longitudinal study conducted by Gámez-Guadix and de Santisteban (2018) did not find a relationship between PIU at time one and sexting behaviors at time two. However, accumulating evidence suggests that excessive Internet use may be a risk factor for the development of these sexual behaviors.

In relation to coercive sexting, we must highlight the concomitant relationship with online grooming processes. These two risks/problems are part of a process of recruitment, seduction and manipulation in which the minor develops a feeling of attachment and intimacy with the adult that hides primarily sexual intentions (*child online grooming*). Sexual solicitation refers to online requests that minors receive from adults to send them sexually explicit photos or videos, answer sexually explicit questions, or engage in sexual activities online or offline. On the other hand, sexualized interaction is when a minor interacts online with an adult by sending sexually explicit photos or videos, engaging in sexual conversations, or meeting with the adult for sex. At the international level, the meta-analysis by Madigan, Villani, et al. (2018) points out that 11.5% of minors (12–16 years old) received sexual requests online. In the context of Spain, the UNICEF report, with a nationally representative sample, indicates that one in ten adolescents has received a sexual proposition from an adult on the Internet (Andrade et al., 2021). On the other hand, Santisteban and Gámez-Guadix (2018) indicate that 12.6% of minors reported sexual requests and 7.9% sexualized interactions with adults through the Internet. In turn, a longitudinal study indicates that the period prevalence, in this case the number of cases in the 13 months of study of sexual requests is 23% and of interactions 14% (Ortega-Barón et al., 2022). Another recent longitudinal study adds a key piece to this picture. Mateos-Pérez et al. (2025) found that online self-harm increased the likelihood of subsequently experiencing grooming, cybervictimization, and non-consensual sexting, and revealed reciprocal relationships among some of these risks. This work reinforces the hypothesis that online sexual and relational risks coexist and mutually reinforce one another, particularly within temporal trajectories of vulnerability.

Several studies have highlighted that Internet usage time is a risk factor, as it has been linked to a greater likelihood of experiencing online sexual advances (Whittle et al., 2013). In a study with 1,763 participants, Tamarit et al. (2021) found that Internet addiction was directly related to online grooming. Along the same lines, Machimbarrena et al. (2018) suggested a significant relationship between PIU and online grooming, especially in the case of girls. Additionally, recent literature has begun to identify psychological and behavioral predictors of grooming. In a study with Argentine adolescents, Resett et al. (2025) showed that sexting and cybervictimization directly predict grooming, while

emotional problems function both as consequences of these experiences and as factors that increase the risk of victimization. These results underscore the bidirectional and cumulative nature of these risks

Given the foregoing, it is worth clarifying that social media is not the only space where these phenomena can occur. Although the scientific literature on this subject is scarce, two cases linking online grooming to video game use were already discussed in the chapter's introduction. We must not forget that video games offer different communication possibilities where adults and children can interact in the same space. The evolution of communication tools on gaming platforms is an important part of the gaming experience (whether as a communication or planning tool or to enhance the player's gameplay experience). In this sense, Drejer et al., (2024) indicate that adults can use various verbal and non-verbal strategies (such as sending gifts) to establish contact, deceive and isolate victims. This isolation can occur through the game's private spaces, chats, servers, or hidden locations. For deception purposes, criminals may manipulate avatars to build trust and use in-game gifts to manipulate or coerce victims. Therefore, it is necessary for parents and educators to be aware of the forms of communication that exist in video games and their nature to be able to prevent these types of problems.

2.3 Problems at the family level

In contrast to traditional or offline parenting, the popularization of the Internet in homes has created a new context that takes place online, especially for the so-called Generation Z and those born in the early 2000s, and Generation Alpha, starting in 2010. As several authors have indicated, we cannot speak of two separate dimensions (or of real versus virtual worlds), but rather that both realities are interconnected and interrelated, and the online context has real effects when it comes to shaping people's subjectivity and identity. We can affirm that, in addition to traditional offline parenting, which is still present in young people's socialization, a new online layer has been added, with its own structure and entity, which we refer to as online parenting (Sevilla-Fernández, Machimbarrena, et al., 2025). Regarding the results of the scientific literature, in recent years it has been shown that the use of some online parental mediation strategy is usually a protective factor against problems derived from technology use (López-de-Ayala-López et al., 2022). Overall, numerous studies have found that parental mediation as a whole is considered one of the most effective methods for addressing the risks that adolescents face online. On the contrary, not using parental mediation strategies often increases the risks of PIU and video game abuse (Nielsen et al., 2019). However, what does not seem so clear are the specific effects that different types of parental mediation have in reducing certain risks and promoting responsible use of the Internet (Nielsen et al., 2019). In fact, recent literature indicates that parental mediation plays a fundamental role in reducing risks associated with social media use. In a recent systematic review analyzing 32 studies published over the past decade, Sevilla-Fernández, Díaz-López, et al. (2025) concluded that parental strategies —particularly restrictive ones, though

also tailored combinations depending on the specific risk— reduce both time spent online and adolescents' exposure to problems derived from intensive social media use. However, the authors also note that there is still no consensus regarding which mediation modality is most effective in each context, highlighting the complexity of the digital ecosystem during adolescence.

At the family level, PIU and IGD can generate significant friction and tension. Conflicts often arise when parents try to set limits and control the time their children spend online or playing video games. Discrepancies in perceptions about the appropriate use of technology can lead to frequent disagreements and arguments. Parents may perceive excessive technology use as a threat to their children's healthy development, while teens may view it as an integral part of their social lives and entertainment.

Furthermore, a lack of effective communication and mutual understanding between parents and children can exacerbate these conflicts. A study by Bonnaire and Phan (2017) found that family relationships and conflicts are associated with IGD in both sexes. These results have been confirmed by more recent studies where, for example, the presence of PIU is related to poorer family functioning, while also time spent on specific online activities (social networks, pornography, streaming media, etc.) is associated with poorer family functioning (Lochner et al., 2024). In studies measuring the influence of family-related variables, low family cohesion and high family conflict—including interparental conflict— were correlated with higher rates of PIU (Soh et al., 2018), whereas family cohesion may protect an adolescent from developing IGD (Bonnaire & Phan, 2017).

Despite this, it is worth noting that the lack of longitudinal studies has not yet allowed us to understand the causality of the relationship between family cohesion and rules and PIU. There are studies indicating that the severity of IGD was greater in adolescents who perceived their parents' attitude as neglectful (Geniş & Ayaz-Alkaya, 2023), while other studies state that stricter rules on Internet use were associated with lower quality of the parent-adolescent relationship (Peebles & Chen, 2024). Other studies highlight the bidirectionality of this association. For example, Zhou et al. (2023), arrived at the conclusion that family dysfunction directly predicts increased problematic gaming but that adolescents' problematic gaming also directly predicts increased feelings of family dysfunction. Finally, family relationships may not only be a criterion variable, but also act as a mediating or moderating factor on other variables. For example, in a recent study, Feng et al. (2023) found that high family support exacerbated the adverse effect of peer victimization on problematic social media use among adolescents through psychological insecurity. This is a complex dynamic, as shown in the qualitative study carried out by Rial and Fundación Barrié (2022), which reveals that parents are concerned about the unsupervised use of video games, which monopolizes adolescents' leisure time and leads them to abandon important activities in their daily lives. Alluding to the lack of parental control in general and the dubious example they set, minors point out that, in their opinion, monitoring is not advisable and that parental controls are not effective. At the same time, they indicate that we should build trust, improve communication, and set limits.

2.4 Multi-risk prevention programs: a global psychoeducational vaccine

Over the past two decades, especially in the last one, numerous prevalence studies, reviews, and meta-analyses have been conducted on all the Internet risks discussed (cyberbullying, sexting, online grooming, etc.) and technological addictions (IGD, online gambling, etc.). These are well-known problems and, to a greater or lesser extent, prevalent and worrying for children and adolescents. However, and following what is set out in this chapter, in recent years, research has begun on the relationship and overlap of certain cyber risks, such as cybervictimization among peers, sexting and online grooming and their impact (González-Cabrera, Machimbarrena, et al., 2021; Machimbarrena et al., 2018). Along these lines, Ortega-Barón et al. (2023) showed that 2.7% of adolescents (10–15 years old) simultaneously overlapped three types of online victimization (cybervictimization among peers, online abuse in the couple and sexualized solicitation and interaction with adults). As regards dysfunctional risks, there are advances that also address the overlap between PIU and IGD (Machimbarrena et al., 2023) or between both together with online gambling disorder (Díaz-López et al., 2024).

In the educational context, many initiatives have been carried out to address these problems, usually through programs aimed at preventing a single Internet problem or risk (see Ortega-Barón et al., 2021; Ortega-Barón et al., 2023 for more information). However, there have been very few programs that focus prevention on the combination of some risks, for example, Cyberprogram 2.0, Prev@cib or Brief Preventive Intervention prevent cyberbullying, sexting and/or online grooming (e.g., Cortazar et al., 2021; Ortega-Barón et al., 2019). However, these programs do not collectively address all Internet risks and not all focus on age ranges highly recommended for primary prevention work (11–13 years) (Yeager et al., 2015). In this sense, a broader vision is needed to address the greatest number of risks in the minimum number of sessions through the creation of an Internet-based pedagogical design that addresses the highest number of problems. Some of the experiences launched that have obtained effectiveness indicators have been the Safety.net program (Ortega-Barón et al., 2024) and the DOMINUS Program (Basterra-González, 2024).

In this case, we are going to focus on the Safety.net Program. It was created with a spirit of primary prevention aimed at jointly preventing up to eight Internet risks, both relational (cyberbullying, sexting, online grooming, cyber dating abuse) and dysfunctional (PIU, nomophobia, IGD and online gaming disorder) in adolescents aged 11–14 (especially aimed at students aged 12–13). Specifically, the program's main objective is to prevent the appearance and increase of these problems in adolescence; this was initially confirmed in its pilot (Ortega-Barón et al., 2021) and reconfirmed in the final study, along with indicators of indicated prevention through the reduction of some key problems (Ortega-Barón et al., 2024). Safety.net consists of 16 one-hour sessions divided into 4 modules: (1) digital competencies: the objective is to educate students about the characteristics of technologies that may entail risks and to provide them with skills to prevent digital victimization and dysfunctional Internet use; (2) relational risks:

this module aims to raise awareness of the seriousness of the risks arising from the students' Internet-based relationships with others and to offer them advice on these issues; (3) dysfunctional risks: the objective of this module is to raise awareness of the seriousness of the risks arising from dysfunctional Internet use and to contribute guidance on the safe use of ICTs; and (4) attitudinal and cognitive change: this module aims to promote certain skills, competencies and abilities in adolescents so that they can better cope with Internet risks.

Conceptually, this program is based on four theoretical frameworks (see Ortega-Barón et al., 2021; Ortega-Barón et al., 2024 for more information): the theory of planned behavior, the social co-construction model, the cumulative risk model, and empowerment theory. First, therefore, the theory of planned behavior assumes that intentions influence behavior, wherefore if we change the motivational factors related to intentions we can modify behavior. In this sense, throughout the Safety.net program, in addition to attempting to change negative behaviors in the online context, we also aim to change the motivations that influence the intentions behind the engagement in these inappropriate behaviors. Second, based on the co-construction model, the Safety.net program also conceives that certain parallels exist between what happens in the online and offline contexts of adolescents' lives. Third, the program adheres to the premises of the cumulative risk model, considering that adolescents are often exposed to several risks at the same time and that this simultaneous exposure to multiple risks has worse consequences for their development than exposure to a single risk. Finally, to provide teens with tools and resources they can use when faced with the various Internet-related risks, this program is also based on the theory of capacity-building and empowerment. This program serves as an example of comprehensive primary prevention by presenting a comprehensive approach that addresses clearly dysfunctional problems, including technologically-based behavioral addictions and other relational risks. The multifaceted and complex reality of our children, adolescents, and young adults' use of the Internet and technological devices requires a limitless vision that allows us to develop educational vaccines to potentially reduce their impact.

3. CONCLUSIONS

Throughout these pages, we have sought to capture the interconnected nature and degree of overlap among certain issues. This handbook clearly addresses behavioral addictions given their consequences on the lives of those who experience them as well as their families, as they lead to a deterioration in the psychological and social functioning of those who are affected. However, in this chapter we intended to emphasize that possible technological addictions (leaving to others the debate about the appropriateness, or not, of the term) and the use of technology have a series of ramifications and effects in other spheres of adolescents' lives: such as relationships and coexistence. It is important

that research and interventions not only focus on isolated risks, but also adopt a holistic vision, considering that an adolescent who engages in PIU may be more exposed to cyberbullying, or that an adolescent with IGD symptoms is also at greater risk of being a victim of online grooming. This, without forgetting that both cyberbullying and online grooming, as previously mentioned, are already occurring phenomena and are often overlapping, and, when this occurs, the impact on quality of life is even greater.

Technology offers countless advantages, and our goal is not to advocate for its prohibition, but it's also undeniable that technology is not harmless. Although potential behavioral addictions are one of the many problems our adolescents and young adults are exposed to, there are many other variables that technology use can impact. The lack of adequate regulation and limited public awareness exacerbate these problems, making a multidisciplinary and coordinated approach imperative. This is a future challenge for society as a whole. This chapter addresses family coexistence as a key element, highlighting the importance of parental mediation and the effect that technology can have on families as a unit. Primary prevention of these problems largely lies in the family and in the early stages. However, the family is not the only responsible party. Both educational authorities and governments are responsible for promoting a healthy use of technology, supported by research and evidence-based approaches. Schools represent a further mechanism for the primary and secondary prevention of these aforementioned issues through their counseling departments and tutoring activities. We believe that the Safety.net program, presented in this chapter is a potential response that presents a comprehensive and holistic approach to addressing a wide range of relational and dysfunctional risks. However, programs that address new risks (such as the use of artificial intelligence, problematic use of pornography, social media, or loot boxes) and that include training for families and educators will also be needed. Only through joint and sustained action among families, schools, and public authorities can the negative effects of technology use be mitigated and the benefits maximized for our present and future generations.

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