Journal of Gambling Issues
Volume 46, February 2021
http://igi.camh.net/doi/pdf/10.4309/jgi.2021.46.13
DOI: http://dx.doi.org/10.4309/jgi.2021.46.13

Perceptions of and Exposure to Games of Chance, Gambling, and Video Gaming: Self-Reports of Preadolescents and Parents

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Abstract

Although gambling-related behavior develops in preadolescence, there is a scarcity of research into the early socialization processes in this specific age cohort. For this study, preadolescents' early perceptions of and practices relating to games of chance, gambling, and video gaming were explored. To account for the perspectives of preadolescents and their parents, we administered semi-structured in-depth interviews with elicitation prompts to 10 Flemish (i.e., Belgian) families with 11- to 12-year-olds. The findings show that different socialization dynamics are at play for the examined media genres. Families were relaxed about young people's involvement in traditional games of chance activities in a familiar context, pointing to early socialization and cultural normalization dynamics in preadolescents who have not yet reached the legal minimum age. Moreover, the parents were not fully aware of the first gambling and games of chance activities of the preadolescents or of some of their in-game micropayments. They did not yet consider active mediation on these matters to be relevant. Because of this, preventive parental mediation efforts cannot reach their full potential; we call upon future researchers to explore ludo literacy programs that can increase the resilience of young players in a world of increasingly converged media entertainment.

Keywords: Gambling, video games, games of chance, preadolescents, parental mediation, convergence

Résumé

Malgré le fait que les comportements de jeu se développent durant la préadolescence, il existe peu de recherches sur les processus de socialisation précoce au sein de cette cohorte particulière. Cette étude explore et contextualise les perceptions et les pratiques de jeunes préadolescents en matière de jeux de hasard, de jeux d'argent et de jeux vidéo. Dans le but de sonder le point de vue à la fois des jeunes et de leurs

parents, nous avons mené des entrevues semi-dirigées approfondies, comportant des questions incitatives, auprès de 10 familles flamandes (c'est-à-dire belges) comptant des jeunes de 11 à 12 ans. Selon nos résultats, différentes dynamiques de socialisation opèrent selon le genre de média. Les parents voient d'un bon œil la pratique des jeux de hasard classiques au sein du cercle familial, ce qui indique une dynamique de socialisation précoce et de normalisation culturelle chez les préadolescents qui n'ont pas encore atteint l'âge minimum légal. Par ailleurs, les parents sondés n'étaient pas pleinement conscients des premiers jeux de hasard et d'argent pratiqués par leurs préadolescents ni de certains micropaiements qu'ils avaient effectués. Ils ne considéraient pas encore comme pertinente l'idée d'intervenir activement sur ces questions. Puisque les efforts des parents en matière de prévention n'atteignent pas pleinement leur but, les recherches futures devraient s'intéresser aux programmes de ludo-littératie destinés à améliorer la résilience des jeunes joueurs dans un monde de divertissement médiatique caractérisé par une convergence grandissante.

Introduction

The prevalence of gambling in youth entertainment culture extends across online and offline spheres, blending worlds that used to be distinct (Molinaro et al., 2018; Pitt et al., 2017). Whereas gambling traditionally took place at dedicated land-based locations, it has now entered the online space. Although the legal conditions for land-based gambling are clearly defined, digital and simulated forms of gambling are likely to operate in a gray zone. It is in this context that gambling mechanics have infiltrated the youth entertainment culture. New "remixed" (Fagerjord, 2010, p. 190) genres blend gambling and games of chance with video game mechanics. Examples include loot boxes and skin lotteries that are likely to function similarly to gambling mechanics (Drummond & Sauer, 2018; Griffiths et al., 2013; Nielsen & Grabarczyk, 2018) and that are increasingly represented in supposedly youth-friendly digital games classified as all-ages entertainment (King et al., 2014; Zendle et al., 2020), without any consistently adopted regulatory scrutiny, age restriction (King et al., 2010), or clear and appropriate advisory labeling (Griffiths, 2018). The covert and aesthetically pleasing game design techniques used in simulated gambling products make it difficult for society, including young people, parents, guardians, caregivers, and policy and legal authorities, to see potential risks (King et al., 2010).

Processes of media convergence take place in a digital ecosystem with commercial business models and strong persuasive tactics, for example, through social media influencers and in-game advertisements. This has made gambling more accessible, socially acceptable, and prevalent in the lives of young people, a trend that is heavily

discussed in societal and scientific public health debates (Gambling Commission UK, 2017; Hardoon & Derevensky, 2002; Molinaro et al., 2018; Pitt et al., 2017).

Although gambling starts in preadolescence (Bellringer et al., 2014; Hardoon & Derevensky, 2002), empirical research is lacking in this specific age cohort. Most studies have been focused on adolescents and adults who can legally be exposed to gambling. Problematic gamblers retrospectively indicate, however, that they were initiated into gambling at a very early age, as preadolescents (Burge et al., 2006; Gupta & Derevensky, 1998). Nevertheless, the socialization context in which preadolescents are exposed to games of chance and gambling (e.g., in video games) remains understudied. Tackling this research gap is important because early exposure seems to leave traces for the development of problematic behavior in later stages of life. Addressing this is also timely because it concerns the first generation of children who are growing up in the converged media environment characterized by new forms of gambling discourses and dynamics "disguised" in a seemingly youth-friendly digital entertainment context.

It is clear that in existing studies on the development of potential problem gaming and gambling behavior in youth, the role of socialization has not been included (Dussault et al., 2017), and scholars have not sufficiently taken into account the perspectives of different family members (Schneider et al., 2017). In previous research on sports wagering, scholars have suggested that parents and children see wagering as "becoming normal or common in sport" (Pitt et al, 2016, p. 480) and that the young people could remember more details of gambling commercials than adults, using jargon such as "cash out," "refund bets," and "cash back." The UK Office of Fair Trading has warned that operators are violating consumer protection laws by exploiting children's inexperience (Gainsbury et al., 2014, pp. 207–208) and gullibility to develop in them a proclivity for gambling and gambling behavior. These developments call for an in-depth understanding of how preadolescents and their primary caregivers—hereafter referred to as parents—perceive games of chance, gambling, video gaming, and remixed versions of these genres and how main socialization agents inhibit or facilitate early perceptions and exposure.

In this study, we aimed to address these gaps in the literature by answering the following research question: What are the self-reported practices and perceptions of preadolescents and parents with regard to games of chance, gambling, video gaming, and remixed versions of these genres, and how do parents perceive and guide the engagement of preadolescents in these activities?

Literature Review

The modern preadolescent period is characterized by heavy digital media use that is sometimes accompanied by risky online behaviors (Fernández-Montalvo et al., 2015). Previous researchers have repeatedly warned of the increasing prevalence of young people being exposed to and engaged in gambling practices (Bellringer et al., 2014; De Cock et al., 2018; Gambling Commission UK, 2017; Hardoon &

Derevensky, 2002; Pitt et al., 2017; Vitaro & Wanner, 2011). Although it is by no means legal to be exposed to gambling and games of chance as a preadolescent, this is precisely the age period during which problem gamblers indicate that they developed problematic gambling habits (Bellringer et al., 2014; Gupta & Derevensky, 1998; Hardoon & Derevensky, 2002; Vitaro & Wanner, 2011). Bellringer and colleagues (2014) administered a survey to 874 9-year-olds in New Zealand and found that 60% reported participating in bingo (housie, a popular form of gambling in New Zealand which is also a common form of fundraising); 17% had received scratch games as gifts (even though the minimum age for scratch cards is 18); and 7% reported buying lottery products (Bellringer et al., 2014).

In 2001, Hardoon and Derevensky (2001) ranked offline gambling as "the most frequently reported potentially addictive behavior engaged in by children and adolescents" (p. 211). To date, however, people's first gambling experiences are more likely to occur online than in the traditional offline, land-based contexts (Griffiths et al., 2012). Results from a survey of 2,881 11- to 16-year-olds in Great Britain (2017) showed that 11% have played gambling-style games online and that 3% spend their own money for online gambling at least once a year. Forty-five percent of the teenagers reported being aware of betting with in-game items, and 11% said they had bet with in-game items (Gambling Commission UK, 2017). In their survey conducted among 645 Belgian pupils in Grades 5 and 6, De Cock and colleagues (2018) found that almost one in four reported playing free digital gambling games such as casino games (De Cock et al., 2018, p. 130).

The growing number of new forms of easily accessible online games with gambling mechanics and aesthetics, such as slot machines with features that can be won on the basis of a randomized rewards system, is of particular concern regarding young consumers (King et al., 2014). Many of these converged representations can be classified as "simulated gambling games," which refers to "a digitally simulated interactive gambling activity that does not directly involve monetary gain but is otherwise structurally identical to the standard format of a gambling activity" (King et al., 2014, p. 305). Because of their wagering features and randomized reward elements, these activities are very similar to gambling (Griffiths, 2018; King & Delfabbro, 2019; Zendle & Cairns, 2018), and given the lack of monetary gains, they escape legal regulatory control (Gainsbury et al., 2014). Skin lotteries and certain loot boxes function as gambling-like features (Drummond & Sauer, 2018; Griffiths et al., 2013; Nielsen & Grabarczyk, 2018) that induce people to play or "hook" them to continue playing (Griffiths et al., 2013, p. 328; Parke & Griffiths, 2006, p. 151). The number of games with loot boxes (i.e., purchasable game treasures based on chance randomized rewards) has doubled in recent years (Drummond & Sauer, 2018). A few jurisdictions such as Belgium and the Netherlands have declared some paid loot boxes illegal under gambling law, even though this is still heavily debated internationally, given the lack of proper theoretical understanding of the phenomenon and the lack of empirical evidence.

Although simulated gambling does not involve a payment, direct payout, or monetary prize, it does come with persuasive wins that are of value, such as virtual

currency, progress in the game, gamification badges, and social rankings. Certain simulated gambling thus shows structural similarities to financial gambling (Gainsbury et al., 2014; Nielsen & Grabarczyk, 2018) with potentially similar effects (Gainsbury et al., 2017, p. 337; Lopez-Gonzalez & Griffiths, 2016, p. 6). These simulated gambling activities are typically represented in digital games for young people (King et al., 2014; Zendle et al., 2020), without effective regulatory, parental, and technical safeguards (De Cock et al., 2018; Drummond & Sauer, 2018; King et al., 2010; Zendle et al., 2019). Yet little is known about the perceptions that young people and their parents have regarding games of chance, gambling, and games, or about the recent manifestations that mix elements of these distinct genres. Converged sites of play in particular call for a certain game-related literacy—also called "ludo literacy"—that is, the ability to interpret video games and video game aesthetics and dynamics in social, cultural, economic, and institutional contexts (Buckingham & Burn, 2007, p. 329; Kringiel, 2012); to understand the different meanings with respect to video games (Zagal, 2011, p. 23); and to have the skills to participate in the debate on these issues (e.g., the ability to assess the video game ethically; Kringiel, 2012).

The emerging digital gambling techniques (King et al., 2010, p. 175; 2012) and the marketing of these products (Pitt et al., 2017) not only make gambling accessible and attractive to young people, they are also likely to ease the parental transmission of gambling attitudes and beliefs, rendering gambling ubiquitous and socially acceptable (King et al., 2010, p. 176; Pitt et al., 2017). Parents, as part of children's socialization networks, act as inhibitors or facilitators of gambling practices (Dussault et al., 2017; Magoon & Ingersoll, 2006; Molinaro et al., 2018). Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1977, p. 514) points to the domestic context as the primary microsystem in which children play and develop. The level of the microsystem refers to "the complex of relations between the developing person and environment in an immediate setting containing that person (e.g., home)" (Bronfenbrenner, 1977, p. 514). It is at this level that the potential role of parents and other socialization agents can be expected to shape young people's perceptions and early exposure to games of chance, gambling, and video gaming. In Bronfenbrenner's Ecological Systems Theory, microsystems are linked to mesosystems (e.g., interrelationships among home, school, and neighborhood), exosystems (e.g., governmental agencies and the media landscape), and the macrosystem (e.g., the economic, social, educational, legal, and political systems).

In previous literature on problematic gaming, however, the role of family factors has been often overlooked (Schneider et al., 2017), even though the authors of several studies have already suggested that gambling is a family affair (Hardoon & Derevensky, 2002), including in Belgium (De Cock et al., 2018), and that family factors such as parental mediation and parental role modeling (Bellringer et al., 2014; Magoon & Ingersoll, 2006) influence children's development and their participation in media and entertainment activities (Hardoon & Derevensky, 2002; Marsh, 2017).

The results of a systematic review have shown that the intergenerational effects that explain the gaming behavior of young people require more attention, and that

previous research lacks an integrative account of the perspectives of young players, their parents, and other family members (Schneider et al., 2017, p. 321). This research focus is important because the context of parental mediation practices can be perceived differently by parents and children as more or less belonging to their own personal domain (Van Petegem et al., 2017). The intended communication style, that is, how parents wish to introduce and convey prohibitions such as media restrictions, is also not necessarily perceived as such by the child (Van Petegem et al., 2017, p. 1032). Moreover, there is the risk that if study conclusions are based only on what parents say, investigators could draw conclusions about risks and harms that do not necessarily make sense if young people's perceptions and experiences are also taken into account (Lobel et al., 2014).

In this study, therefore, we worked to address two gaps in the literature: the lack of empirical research into various types of gambling and gambling practices in preadolescents, and the lack of a thorough understanding of the socialization factors involving consideration of the perspectives of both preadolescents and their parents. In response, theoretical advancement was pursued through two interwoven lines of inquiry. First, unlike most of the previous work, we did not focus solely on one role or perspective in the family (e.g., by considering only the self-reports of the parents). We also did not limit our analysis to one specific genre (e.g., gambling only) or one medium (e.g., video games only). Instead, our inquiry was sensitive to potential domain crossovers and the remixing of genre representations, as they are perceived by parents and their preadolescent and teenage children. Second, we did not assume that parents or preadolescents already had an understanding of deep mediatization and convergence processes as identified in the scientific research. Therefore, we were sensitive to exploring the meaning-making and behavioral practices as shaped by varying degrees of ludo literacy development and different socialization strategies.

Method

Research Design

For this study we adhered to a qualitative research design that was focused on a small number of families to develop an in-depth, contextualized understanding of the topic under investigation. A qualitative exploration was well-suited, we argue, for three reasons. First, the multifaceted characteristics of converged video gaming and gambling practices can manifest themselves in subtle, hard-to-anticipate ways, especially given the scarcity of research on this emerging phenomenon in youth. Second, the potential lack of apparent knowledge about the phenomenon demands that researchers be sensitive to habits, things taken for granted (e.g., due to normalization of gambling or a lack of critical ludo literacy), and latent knowledge that only becomes apparent after prompted or cued reflection. We anticipated that many of the new and often covert convergence processes may be present but unnoticed in the participants' lives. Finally, an interpretive qualitative stance was also well-suited to make sense of the richness of situated, meaning-making practices. This choice is in line with previous literature on beginning gambling and games of

chance in which it has been shown that simply considering the behaviors that young people engage in or encounter is less informative than is also investigating how they attribute meaning to those experiences (Reith & Dobbie, 2011).

Procedure

Ethical clearance was sought prior to the study; the research protocol was approved by the institutional ethical review board SMEC (KU Leuven, Belgium). The interviews took place from mid-August, 2016 to mid-September, 2016. The study covered a period before Belgian jurisdiction concluded that loot boxes are gambling and therefore illegal (King & Delfabbro, 2019; Naessens, 2018). Families who volunteered to participate could choose to be interviewed at a neutral place at the university or at home. Eight interviews (four adults and four preadolescents) were conducted in the design room of the Meaningful Interactions Lab of the KU Leuven, and 12 interviews (six adults and six preadolescents) took place at the families' homes. The interviews with the parents lasted about 1 to 1.5 hr; the interviews with the preadolescents lasted about 45 min to 1 hr. After a research briefing and the signing of the informed consent forms, a gift voucher worth 40 EUR was handed over to the participating families. Parents and their children were interviewed simultaneously but separately.

Participants

A nonprobability sampling strategy was chosen, as the population of preadolescents who are exposed to converged gambling and gaming practices is not well defined in the body of literature. We adopted the purposive sampling technique, which is typically used in qualitative studies (Etikan et al., 2016), in order to speak to families with preadolescents and to recruit families as diverse as possible in terms of socioeconomic status. The only inclusion criterion for parents was to have a son or daughter who was in fifth or sixth grade of primary education in the previously finished school year. Families in which the parent and/or child was not able or willing to participate were excluded. Families' previous experiences with and knowledge about the topic under investigation was not used to identify or select the participants. We reasoned that parents and preadolescents could be ludo literate, even without having actively engaged in the behaviors under study. We also expected that some preadolescents or parents might take certain video game or gambling practices for granted or not recognize their existence or potentially problematic nature, and thus certain practices might be incorrectly perceived or even remain under the radar if this were a recruitment criterion for participation in the study. This approach is in line with the work of other researchers who have warned about the increased normalization of gambling practices and difficulties in recognizing covert gambling practices in video games (Macey & Hamari, 2018).

Recruitment took place during the summer holidays and relied on various strategies, including distributing public social media posts and physical flyers on playgrounds. In the recruitment letter, people were informed about the topic of the study, inclusion

criterion, location, incentive, and contact details of the leading researchers. A total of 10 families were selected to participate. Of the parents, seven mothers and three fathers agreed to take part. The group of preadolescent participants consisted of three girls and seven boys, all aged between 11 and 12 years old. Despite our recruitment efforts to balance out the households' demographic profiles to seek diversity, interested families were all white, middle-class people living in the wider area of the city of Leuven, Belgium.

Data Collection

To address our research question, we administered face-to-face, semi-structured interviews. The advantage of semi-structured interviews is that they allow for open-ended questions that provide the opportunity to probe for more information and to account for the interviewees' own views and terms (Cohen & Crabtree, 2006). We developed a topic guide that tapped into the main components of our research question, namely, the practices and perceptions regarding games of chance, gambling, video gaming, and remixed versions of those genres. We anticipated that it might have been the first time that the participants explicitly reflected on the topic of games of chance and gambling. The extent to which the participants would have prior knowledge about these matters was also uncertain, as well as whether they would be able to easily verbalize their thoughts. Therefore, we combined the semi-structured interview with the use of visual elicitation probes and a card sorting technique (Lobinger, 2016, p. 299).

The topic guide was divided into two main parts; one was for all questions related to games of chance and gambling, and the second dealt with questions on digital media use in general and video games in particular. We did not purposely ask about the connection between video gaming and gambling because we wanted to see whether and how the interviewees would speak up about ongoing trends in online gambling and online video gaming.

Our research instrument started by inviting each interviewee to verbalize top-of-mind associations with respect to games of chance and gambling. We then probed their behaviors, thoughts, and feelings with respect to games of chance and gambling by means of visual elicitation probes that we discussed with each participating preadolescent and parent separately. These elicitation probes depicted different publicly known categories of games of chance and gambling in Belgium, including draw games (e.g., Lotto and EuroMillions), scratch cards (e.g., Win For Life), online and offline poker, betting on sports results (e.g., SCOOORE), bingo, online betting, and online and offline casino games (see Appendix A). We further probed from information about situational factors by asking questions about with whom, where, why, when, and how they play. The construction of corresponding interview topics and follow-up probes was loosely informed by the authors' prior knowledge on these themes, with the following sensitizing concepts (Bowen, 2006) guiding our inquiry: "parental mediation" (Fikkers et al., 2017; Livingstone et al., 2017; Zaman et al., 2016) with attention

to possible bidirectional dynamics between parent and child (Nelissen & Van den Bulck, 2018; Wisniewski et al., 2015); "parenting dimensions" (Power, 2013); and "ludo literacy" (Zagal, 2011).

To triangulate the interview data with a format that would further trigger *reflection-in-action* (Schön, 1983), we applied the card sorting technique with the adult participants. There were three types of cards: (1) cards that visually represented eight games of chance and gambling practices (e.g., online and offline poker, scratch cards, online casino); (2) cards that depicted icons representing an adult, a child, and a family to encourage reflection on socialization processes; and (3) empty cards entitled "criterion" (see Appendix B). Parents were invited to sort the cards into groups and to define their own sorting criteria about why they would link certain games of chance and gambling practices to the child, adult, or family cards. They were encouraged to write these criteria as labels on the empty cards. During card sorting, the interviewer probed for reasons for parents' mediation choices and decisions with respect to games of chance and gambling.

We concluded the interview by addressing topics related to digital media use in general and video games in particular. After questioning media device ownership and use, we explored situational factors by asking whom, where, why, when, and how questions. We paid particular attention to possible bidirectional dynamics between parent and child. For example, parents were asked about their parental mediation practices, whether children have a say in the decision-making process of media rules, when and how parents intervene and engage in co-use, and whether parents discuss media uses and effects with their children. Finally, we also questioned what they understood by problematic game behavior in order to gauge their meaning-making processes and their level of critical ludo literacy.

Data Analysis

The data analysis followed an iterative process of coding, recoding, and systematizing the data, with quality measures based on prolonged engagement, researcher collaboration, research triangulation, and the discussion of preliminary findings that we presented at international conferences (please see, Zaman et al., 2018; Zaman et al., 2020b). All interviews were audio-recorded and transcribed verbatim. Our coding approach was sensitive to insights from previous studies (see, e.g., the use of sensitizing concepts as described earlier) and in that sense could be classified as an adaptive theory (Layder, 1998) approach. More particularly, we were guided by the existing literature on Bronfenbrenner's (1977) Ecological Systems Theory, parental mediation, ludo literacy, media convergence, and problematic Internet/gambling behavior.

The second author started the analysis by an initial familiarization with the transcriptions, followed by a first systematic coding cycle. This first cycle combined two methods. By means of *provisional coding* (Saldaña, 2013, p. 144), we applied the thematic themes of the semi-structured interview guide to related segments.

In parallel, we used *magnitude coding* (Saldaña, 2013) to add a supplemental numeric code to indicate presence or absence. A data reduction was carried out, resulting in a synthesis of about two pages per participant.

The provisional codes included preadolescents' and parents' "behavioral practices" (including "type of play activity," "motivation," "experience," "frequency" and "duration," "purchase" and "commitment," "spatial context," and "social context"); "perceptions," "knowledge," and "attitude" with respect to games of chance, gambling, National Lottery, and video games; and "parental mediation practices" (including their "perceptions" with respect to "the preadolescent's online and offline play behaviors," "digital media rules," "perceived role of the parent," and "conversations between parent and their teenage child").

The first author led the second systematic cycle of coding, which was based on the *focused coding* method (Saldaña, 2013, p. 213). This allowed us to distill the most salient categories (Charmaz, 2006, pp. 46, 57) from their frequency (cf. magnitude coding) and their significance (i.e., relevance for research question and analytical lens, cf. supra). At this stage, the visual materials were consulted and compared with the verbalization data. All co-authors were involved in the final decision regarding the relative importance of the codes and how the codes could be meaningfully cross-referenced.

The final focused coding phase yielded two important clusters of insights, which are discussed in more detail in the Results. The first cluster was developed on the basis of a comparison and integration of the views of parents and preadolescents on games of chance, gambling, and video gaming. To support the reporting of the insights of this first cluster, we created Table 1, an overview of the perceptions of both preadolescents and parents, and Table 2, the underlying comparative evaluative framework of parents. The second cluster provides an exploratory overview of the different socialization practices that are involved. To support the presentation of the results of the second cluster, we made two visualizations to map the socialization networks of games of chance and gambling on the one hand (see Figure 1) and of video games and gambling mechanics in games on the other (see Figure 2).

Results

Parents' and Preadolescents' Perceptions

As can be seen from Table 1, the perceptions of the interviewed parents and preadolescents regarding games of chance and gambling were largely similar. In general, the interviewed parents and preadolescents were inclined to express a neutral to positive perception of games of chance, sports betting, and offline poker without money and purely for fun. They were critical of and had rather negative perceptions of land-based gambling practices. The perceptions of the preadolescents were less elaborate with respect to games of chance and gambling, but more detailed and

Table 1

Overview of the Perceptions of Preadolescents and Parents Regarding Games of Chance, Gambling, and Video Gaming

Sites of play	Preadolescents' perspectives	Parents' perceptions
Games of chance (e.g., scratch games, draw games, products of the National Lottery)	Neutral to positive perceptions, but acknowledgment of the risk of losing money. Perceived as an acceptable and fun activity in a familiar (e.g., family or sports club) context, provided it remains an occasional activity with low stakes.	Neutral to positive perceptions. Perceived as acceptable in a family context, or as a treat/gift, provided it is played for fun and not for money. Products of the National Lottery perceived as less risky because of legal safeguards.
Sports betting; offline poker without money	Have a notion of the existence of offline sports betting through commercial messages. Positive perceptions with respect to poker played for fun (but not for money).	Perceived as acceptable provided they are not played too often, are played for fun and social motives, and are not played alone and not for money.
Land-based gambling (e.g., casinos, slot machines)	Negative perceptions linked to the perceived risk of losing money.Familiarity with casinos through mass media.	Negative perceptions. Perceived as risky and addictive; risk of losing large amounts of money.
Online games of chance and online gambling (e.g., betting sites, online poker, online sports betting)	[Not really discussed as a distinct category compared with offline counterparts.]	Perceived as risky and addictive due to the low thresholds and the lack of social and regulatory control.
Video games	Positive perceptions, perceived as fun, acknowledging that video games occupy a place in their lives alongside other activities, such as homework and hobbies. Gambling-related purchases in video games: linked to the risk of losing money.	Neutral to negative perceptions, valuing physical play more than digital play but accepting video games as a phenomenon of the times.

Table 2

Parents' Comparative Evaluative Framework in the Development and Verbalization of Their Perceptions About Games of Chance, Gambling, and Video Gaming

Meaning-making elements constitutive of the comparisons	Critical and negative perceptions towards	Versus neutral to positive perceptions towards…
Characteristics of the site of play		
Category	Gambling	vs. games of chance
	Video games with harmful or risky content (e.g., violence) and effects	vs. video games with beneficial content and effects (e.g., promoting creativity)
Modus: online/offline	Online gambling and games of chance, Digital video games	vs. physical counterparts (as present in a social, familiar context) vs. physical play
Operator	Products from commercial gambling and games of chance operators	vs. products from National Lottery
Situational factors		
Motivation	Playing games of chance or gambling for financial gains	vs. playing games for entertainment and/or sociality motives
Play intensity	High intensity of games of chance, gambling or digital play	vs. occasional play and for digital games, also limited in duration
Social context	Playing alone	vs. playing in a familiar social/ collaborative context

Figure 1
Socialization processes that shape preadolescents' perceptions and practices of games of chance and gambling, structured according to Bronfenbrenner's (1977) Ecological Systems Theory.

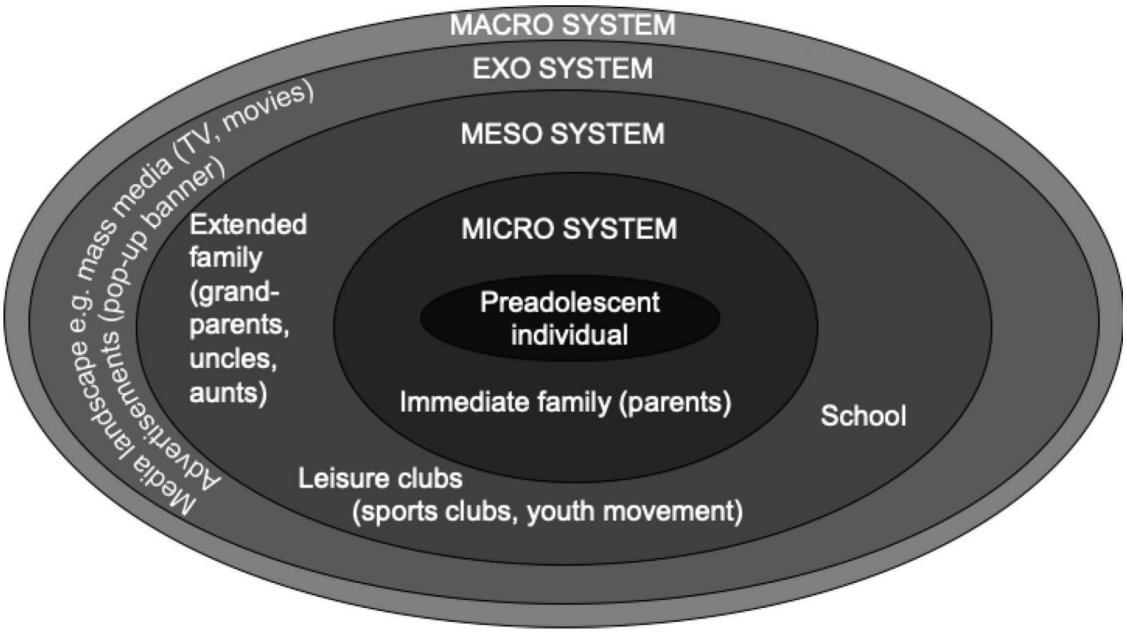
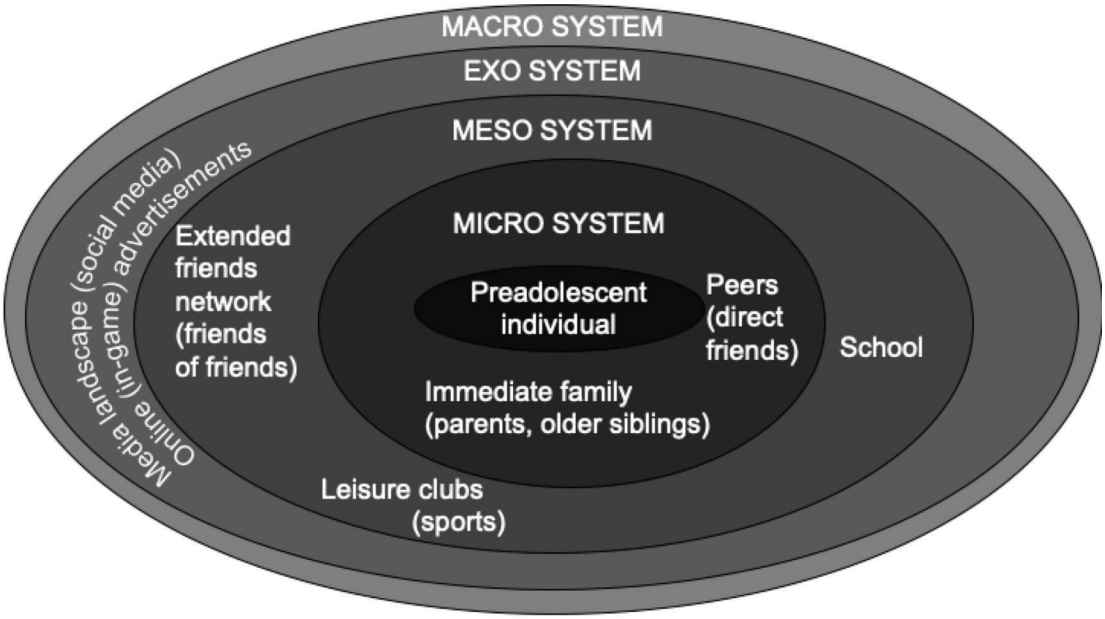


Figure 2
Socialization processes that shape preadolescents' perceptions and practices of video gaming (incl. games with simulated gambling), structured according to Bronfenbrenner's (1977) Ecological Systems Theory.



positive regarding video games. None of the parents or preadolescents hinted at any converged practices, with the exception of a few preadolescents who showed early cognitions of video game gambling (skin gambling).

Preadolescents' Perspectives

The interviewed preadolescents' top-of-mind associations with games of chance and gambling included "casinos," "slot machines," "betting sites," and the risk of "losing money."

Preadolescents who indicated that they occasionally play scratch cards believed that this is acceptable for parents and preadolescents as long as it does not happen too often and so long as the amount played is not too high. The latter group of preadolescents described scratch cards as "exciting" and "fun," but they would not like to lose money. See, for instance, the quote of the interviewed girl of Family 1 (in short, Girl F1, in which F refers to Family and the number 1 refers to the coded label as being the first family who participated): "It's just fun. But I wouldn't buy 10 or so to win something because you usually end up with a loss."

Regarding draw games, the majority of the preadolescents had heard about these products through media coverage, but had no outspoken opinion; see, for example, Girl F6: "Yes I know by hearsay. And uh, because of [name television show] … and that was also with a lot of money and stuff;" and Boy F7, who described it as follows: "… piece of paper you can buy, and there are numbers on it I believe, and then it's on the television and the radio … and if it's on your card, you get a prize; a cash prize." Two preadolescents explicitly stated that they believe it is not wise to take part in draw games, because the chances of winning are very small. In contrast, two other participants expressed the normative belief that this is okay for adults and preadolescents as long as it does not happen too often and is only for a low amount of money.

Although several young interviewees had been exposed to commercial messages related to sports betting, for example, through advertising in the newsagent's shop or a promotional stand in a soccer stadium, they reported that they were not interested. For F6, the boy's lack of interest also implied a lack of knowledge, as he asserted, "When I go there [soccer club], you can sometimes see these [scratch card] boxes. But I didn't know anything about gambling so yeah ..." The results also indicated that a few preadolescents were familiar with slot machines and poker. Nearly half of the preadolescents showed a positive attitude toward poker, with or without low stakes, with some of them assigning a cool image to poker from experiences of playing the game with friends or having developed associations with movies; see, for example, Girl F9 who stated, "... especially in James Bond movies or so in action movies, because then they always do."

Few preadolescents had an outspoken opinion about land-based gambling, although "casinos" was included as one of the most salient, top-of-mind associations during the interviews. Many preadolescents could form an idea of what casinos look like from what they had seen in popular media (e.g., movies) and/or advertisements (e.g., online banners). See, for instance, the interview with Boy F6:

> *Interviewer:* And we will start with the topics of games of chance or gambling. What does that tell you, have you heard of it?

Boy F6: Um, I haven't really heard of it, but sometimes when we're watching TV or something, a casino or something like that comes along. But other than that, not really. I haven't heard much about that yet.

Interviewer: Yes, and so yes, casino commercials, that's online casino?

Boy F6: Um, yeah, yeah, I think so, yeah. Yeah sometimes like that, a pop-up that appears like this. Suddenly on your screen. And then so, then so, yes you have to, like, that's a gambling game, gambling games and so on.

Interviewer: Yes. And what do you think when you see that?

Boy F6: Then I click that away.

Interviewer: Yes.

Boy F6: Yes, that doesn't really mean anything to me.

All preadolescents were positive about playing video games and regarded it as an exciting activity. They all mentioned at least one preferred video game and recognized that the games have a place in their lives alongside other activities such as homework, physical activities, and/or hobbies. Preadolescents gave various answers to the question of what they would perceive as problematic video game behavior. Some preadolescents said they had no clear opinion about this, while others were strongly convinced that the consequences of the game behavior (e.g., on school results or on their sight) mattered more than the duration.

Many preadolescents had formed an idea of what can be considered a reasonable duration, citing different rules of thumb for setting upper limits, ranging from 1 hr to 4 or 8 hr a day. Two preadolescents stressed that, regardless of the duration, there should be sufficient variation with other activities, such as outdoor physical activities. In the margins of the discussion about what they would perceive as problematic gaming behavior, some preadolescents referred to content and safety risks. Two preadolescents told us that they were introduced to skin gambling by friends, older siblings, and/or YouTube. The first lines of the interview with Boy F3 were as follows:

Interviewer: We're going to talk about games and stuff later, but first we have a part about games of chance. And I just want to hear from you for once what you think about when you hear that, games of chance.

Boy F3: Uh, casinos, uh, yeah, all roulette and stuff. And also, one game where you have skins and then—that costs so much money—and then with those skins there is a site where you bet on it. And then it's a kind of roulette and when you land on it, you get all the skins that other people have bet on and that's how it is and that's how you can make money.

Their perception of this kind of gambling in games was critical and negative because of the risk of losing money. Indeed, "losing money" is a perception that came back in relation to various sites of play; it was also included as one of the top-of-mind

associations of the preadolescents when they were first asked about games of chance and gambling in general. This perception also applied to spending money in games, as Boy F10 explained in the context of a discussion on skin gambling in the video game Counter-Strike: Global Offensive: "Um, I wouldn't do that, because you can make so much loss with that." Boy F8 also referred to the risk of losing money "... because sometimes you win and sometimes you don't actually. If I always lose like that, I lose a lot of money to those skins, so yeah."

Parents' Perspectives

The interviewed parents' overall top-of-mind associations for gambling included "casinos," "online gambling," "slot machines," and "horse racing." The interviewed parents also associated gambling with betting large amounts of money and a high risk of addiction, but they asserted that this is much less the case with games of chance. The results pointed to the social acceptance of scratch and draw games. The majority of the parents said they believe the latter activities are acceptable provided they take place only occasionally within a familiar context, for instance during family holidays or as a gift. Although the occasional use of games of chance often implied the active involvement of the preadolescent, parents were unanimous in prohibiting their son or daughter from playing alone or starting to engage with scratch and draw games for financial motives.

Games of chance—by which adults primarily mean the use of draw games and scratch cards—as well as sports betting and offline poker, were much more accepted among the adult participants than land-based gambling, but all on the condition that they were played for fun and social motives and not for money. For instance, during the card sorting exercise, Father F10 asserted that offline poker is accepted, even for young people, on the condition that it is played in a social context for fun and without money. Beliefs that contributed to a neutral or slightly positive attitude toward offline poker were related to the role of skills and sociality, while still bearing in mind the above-mentioned conditions. Sports betting was seen as a way to have fun.

The adult interviewees were openly critical of the online counterparts of games of chance, sports betting, and poker because of the perceived low thresholds, risk of addiction, possible financial losses, and perceived lack of social control and proper regulatory protective provisions. See, for instance, the quotes of the following three parents:

> *Father F10:* Online poker, online gambling, online casinos, it shouldn't be out there … there is hardly any barrier to enter . People can easily lose themselves in this and experience negative feelings.
>
> *Mother F1:* Online, it [buying scratch cards] was dangerous, because you buy an amount in advance and that's so easy. Yes, you no longer have a physical threshold of, "I have to go to the store".
>
> *Mother F2:* This is really something for profit companies. Their aim is to receive more money than they spend, so there is one lucky one, and millions of people

> who spend money on this on a weekly basis without basically getting anything in return.

Half of the adult interviewees were neutral to negative about video games. They considered video games to be dull and antisocial, valuing "real" contact and collaborative physical play more than digital play. Despite the different attitudes towards video games, the parents expressed a similar preference for video games that promote creativity and social connectedness over realistic violent games, which they evaluated as risky and harmful. They also shared concerns about the potentially negative impact of video gaming on school performance.

In developing and verbalizing their perceptions, the parents revealed a comparative evaluative framework in which their perceptions depended on the characteristics of the play practice, linked to the category, online/offline modus, and operator, and on the perceived role of situational factors linked to motivation, play intensity, and social context (see Table 2).

Regarding the characteristics of the gambling practices, parents expressed a neutral to positive perception of the category of games of chances, such as scratch and draw games. This view contrasted with their views on gambling, such as casinos and slot machines, which were rated negatively. Even the terminology evoked different associations: The word "chance" was perceived relatively positively, whereas "gambling" was perceived negatively. Consider, for example, the words of Mother F9: "Chance, games of chance have a positive … connotation, whereas gambling has at least the connotation of being risky. And yes, possibly negative."

To a certain extent, this nuance was also present in the answers of the preadolescents, who were also more lenient with respect to games of chance than to threshold gambling. Furthermore, parents assessed online and offline versions of gambling and games of chance differently, with online practices being critically evaluated and perceived as risky in terms of losing money and addiction. Parents said they believed that the high availability, low thresholds, and lack of control over these online practices would increase behavioral dependency and compulsiveness. The operator also played a role in their perceptions, with parents having more trust in the National Lottery's products than in the products of commercial gambling operators. Concerning situational factors, parents were more relaxed toward occasional social play and playing for fun than they were toward people playing alone regularly and for money.

Parents' and Preadolescents' Practices

Our findings revealed insights into the socialization networks that shape young people's early exposure to and development of early perceptions about games of chance, gambling, and video gaming. They point to the role of influential others such as family and friends, as well as extended networks and the media landscape, in shaping preadolescents' practices and perceptions.

Mapping the findings according to the general structure of Bronfenbrenner's (1977) Ecological Systems Theory reveals the similarities and subtle differences between the socialization networks of games of chance and gambling on the one hand (see Figure 1) and video games and gambling mechanics in games on the other (see Figure 2). A comparison of Figure 1 and Figure 2 shows that direct family members play an important role for all sites of play. For games of chance and gambling, parents are the main socialization agents; for video games, siblings and close friends also play an important role. The direct networks are interwoven with school and leisure clubs. For video gaming, extended friends are relevant influential actors, and for early exposure to games of chance, extended family members initiate further socialization processes.

Finally, the media landscape creates awareness of and interest in different sites of play, with online advertisements (e.g., in mobile games) and social media (e.g., YouTube, video, and chat platforms) playing important roles in relation to video game-related phenomena and traditional media (e.g., TV programs, movies) as well as offline and online advertisements (e.g., pop-up banners) in relation to games of chance and gambling.

Socialization Practices in Games of Chance and Gambling

The findings show that the practices of immediate family members play an important role in the early socialization processes related to games of chance. Some preadolescents mentioned the occasional use of games of chance by their father or mother, as Boy F10 exemplified: "Um, that's my mom who does that often [referring to Lotto], sometimes, when it's so much money."

In several interviews, it was clear that parents' occasional use also implied the active involvement of preadolescents. See, for instance, the comment of Father F8: "Pff, then we look at the results or something together, in that sense. Often, they actually check it, so um, they find that very pleasant." When talking about scratch games, Father F8 further explained that he sometimes buys them as a gift: "Even for kids, they love it, though it's only from 18, I guess?" These early socialization practices were also alluded to in the interviews with the preadolescents. See, for instance, the following excerpt from the interview with Boy F6:

Interviewer: Those are scratch cards.

Boy F6: Ah yeah, yeah, that's Win for Life or something.

Interviewer: Yes…

Boy F6: I know that.

Interviewer: You know that, and from where do you know that?

Boy F6: Um, yeah, that's sometimes also part of my daddy's things.

[He then explains in his own words how scratch games work.]

Boy F6: Yes, that's what he [Boy F6's father] buys sometimes when he goes to a store, that's sometimes part of it.

These socialization practices were often bidirectional, with parents creating the opportunities for preadolescents and preadolescents bringing it to the attention of parents. The mother and daughter of Family 1 each independently hinted at this, as illustrated in the interview excerpts below.

Interviewer: And have you ever been in touch with that, with games of chance? Have you ever participated or...?

Girl F1: Yes, sometimes buying Win for Life, but not really buying the Lotto or anything like that.

Interviewer: And then you're going to buy that yourself in the shop?

Girl F1: Yes no, my mum will come with me and I'll ask if I can have one of those scratches. And usually I can.

Interviewer: Do your children know when you do something like this? Those scratch games, actually?

Mother F1: Yeah yeah absolutely, because most of the time when we go to the supermarket, they stand there at the cash register and she says "Ah, we are going to buy one, aren't we?" And then I say, "Why not, huh?"

Interviewer: Is it indeed often [name of daughter] who gives the occasion?

Mother F1: Actually yes. Yeah, I'm not actually going to buy that myself. Unless I do it online, but I would never buy it myself.

In addition to the socialization practices of the immediate family, the results also pointed to the socialization practices of extended family members, such as grandparents, aunts, and uncles. See, for instance, the remarks of Girl F7, who spoke about the one time that she participated in the EuroMillions: "I think it was Christmas, like those Win for Life things, and my aunt had bought one of those things for everyone [as a gift]."

The findings suggest that socialization is being passed down in families from generation to generation. Several parents referred to how they were also socialized as children. For instance, Mother F7 explained how her mother used to play the Lotto and how her grandparents invited her and her siblings to scratch cards. Scratch games were also part of the activities taking place at the soccer club and were passed on to the child through the practices of the parents, as illustrated by Boy F10:

… tombola [a type of lottery in which tickets are drawn from a revolving drum] and then you could win a trip, or these other things [scratch cards handed out at the soccer club], I'm not sure what it's called … My dad used to buy these, and then I had to do it.

Finally, the results showed that early socialization extends to the practices that are unfolding at the level of schools, leisure clubs, and the media landscape. For instance, some preadolescents attributed a popular image to poker through associations with movies or the experiences of playing poker with friends. When the interviewer asked Boy F5, "Poker, how do you know about it?," his answer did not just refer to the social networks of his friends at school ("I learned that from friends at school and now, I loved it, so I bought a poker set. That's quite nice"), but also to the youth movement network ("At camp we sometimes do it with clothes. … Yes, if someone has a deck of cards to play poker with. We play it during a short nap").

Although the findings shed light on how preadolescents are being socialized both intentionally and unintentionally at different levels, ranging from the direct and extended family level, to school, leisure, and mass media, the parents said they did not find any parental mediation relevant, not even those parents who said that their child had already been given scratch games or played poker without a stake. As a consequence, there was little or no discussion about games of chance or gambling. This also became apparent in the interviews with the preadolescents; see, for example, the remarks of Girl F7:

> *Interviewer:* Yes. And is that something your parents sometimes talk to you about?
>
> *Girl F7:* No. No, because that's not a problem with us either, so ...

Some parents suggested that this might change once the child gets older, and that there might be a need to discuss this more explicitly and to specify rules. Three families had already engaged in a discussion about the risks of gambling in response to advertising that acted as a trigger for active mediation; see, for instance, Mother F2:

> If I notice they are playing a game and, for instance, it shows publicity for online casinos and things like that, then I would tell my kids what it is, and that they should be careful and never click on it. So every now and then I warn them about this.

Some parents were confident that their preadolescent son or daughter had sufficient critical cognitive skills to prevent this from happening. For instance, when we asked Father F8 about the rules for gambling and games of chance, he responded: "Not really, there are unwritten laws, so to speak. At least, that's what I suppose, that none of my children would actually do that." Other parents were convinced that the more generic media rules would suffice, such as the rule that preadolescents may not spend money online and/or that they must use media devices in the living room. The results also pointed to the relaxed attitudes of parents with respect to their child's occasional engagement in a social scratch game activity. During card sorting, they asserted that it is OK to involve preadolescents, provided that it is played for fun, occasionally, and with low amounts of money. Yet all parents were unanimous in prohibiting the preadolescent from playing scratch games alone. Several parents suspected that in time (e.g., during puberty), clearer agreements would be needed.

Socialization Practices in Video Gaming

The findings show that immediate family members are important socialization actors for the early socialization processes related to video gaming. In this process, parents and siblings take on different roles. Parents are important gatekeepers in purchasing video games and determining the general rules of what is and is not allowed in the family, and siblings raise interest, acting as co-players and co-learners. The majority of parents had already bought a game console or a video game as a gift for their child. Some parents also indicated that they had made smaller purchases at the request of their children, who would then pay it back with their pocket money. Free mobile games can often be downloaded without prior parental consent or help. Most preadolescents confirmed that they are given considerable autonomy to download free online video games, as Girl F9 testified:

> I have to check for myself whether, you know, if it looks really nice, I can download it, but I also have to check whether it looks okay and so on. And yes, they trust me to do it, to do it right. So, I can do it, I don't have to ask permission, not anymore.

For more expensive purchases, such as a new console game, the preadolescents indicated that they must first ask parental permission to buy it with their parents' credit card and sometimes repay it with their pocket money. Although some families mentioned that they use gift vouchers for game-related purchases, parents were not aware that preadolescents also make micropayments with the remaining money on the voucher, for instance, to buy a new skin, as Boy F10 testified: "I once bought a skin in Counterstrike with the remaining money on the voucher after buying a game." A few parents expected their children to ask for explicit permission to start playing, downloading, and purchasing video games and to report when something strange happens online. A majority of the parents interviewed emphasized that their children proactively show what they are doing online. This was also referred to in the interviews with the preadolescents, half of whom said that they occasionally and spontaneously show their parents what they are doing or have done. Most parents did not disclose any active co-play. This was also confirmed in the interviews with the preadolescents, who told us that their parents do not play video games with them. None of the parents experienced the game behavior of their son or daughter as problematic at the time they were interviewed. They explained that they take into account several factors to evaluate their child's gaming behavior, including school performance, engagement in social activities, and screen dependency.

The parents said that they would adjust their mediation practices accordingly and that they rely on some rules of thumb to decide on the appropriateness of screen time for their children, including the time they spend playing video games. What the parents considered as reasonable screen time depended on situational demands such as schoolwork, weather, and social requirements and norms (e.g., no or less screen time during visits of friends or family).

Half of the adult interviewees said that they make arrangements about the location, for instance, by allowing their preadolescent children to use screens only in the living room and not in their bedroom. Many preadolescents reported that their parents were worried about them playing video games for too long and were therefore encouraged to do something else, such as a physical outdoor activity or finishing their homework first. Some preadolescents reported that their parents remain on standby or actively monitor their media use, for instance, by keeping track of screen time or by checking their browser history.

Half of the preadolescents said they rarely or never had a conversation with their parents about the video games they play. This is in contrast to what parents asserted, as most informed us that they regularly talk to their teenage child about their digital media use, for instance, on topics such as online safety, problematic gaming, and the rationale behind media rules. Some parents explained that they think carefully about the way they communicate about media rules and that they consciously choose to consult or involve the child in the decision-making process. In doing so, they reflected on how choices are aligned with their parenting values. See, for instance, the comments of Mother F7:

> We talk about it, the importance of trust, like, "I'm not going to check it." I'm not constantly … I am not going to do that. But they know, if I find out, if they don't do what I asked them to do or if they don't do what's agreed, … well, then I don't trust them anymore. And they know that's worse.

The socialization practices at the microsystem level (i.e., immediate family and direct friends) are interrelated with mesosystem networks of extended friends, school, and leisure clubs.

The interview excerpt with Boy F10 on skin gambling activities in the video game Counter-Strike: Global Offensive, or in short CS:GO, serves as an example of socialization through the preadolescent's broader gaming network (cf. friends of friends).

> *Boy F10:* Then you have to open a case like that, and I'll see it there.
>
> *Interviewer:* Yes. For the skins then?
>
> *Boy F10:* Yes.
>
> *Interviewer:* Yeah. And do you know someone who does this, is that someone you know in real life or do you see that on YouTube?
>
> *Boy F10:* Um, I, yeah, I actually know [name friend], that's a friend of mine, he's in school with me. But he also has friends, and that, with them, I Skype often while we play CS:GO.

In the interview with Boy F3, we saw an example of how preadolescents are exposed to modeling practices through friends from the extended network and school:

> *Interviewer:* Yes, and, uh, is that CS:GO Lotto or is that another site?

Boy F3: CS:GO and so on, yes CS:GO Lotto, CS:GO ... Just, there are a lot of them but they're going to get rid of them, Steam is going to get rid of them, I don't know exactly why, but they're just going to get rid of them for some reason. So then you can't take any more chances, actually, on CS:GO.

Interviewer: Yeah. And how did you get those or how did you end up there, on those websites?

Boy F3: Yes, to see my friends play, because my friends do that sometimes and yes, yes, and then I just see them play, but I do that [pause], I've never done that myself, no.

Interviewer: Yeah. And those friends, were they [pause], are they older friends who do that or from the same class, for example?

Boy F3: One of the same class and their brother and cousins do the same.

Interviewer: Yes. And do you go to their house to [pause]?

Boy F3: No, you can also just watch. For instance, on Skype they can share their screen or I can just go to that site myself to see what is happening.

Although different socialization practices are situated at the level of the micro- and mesosystems, the findings suggest that the media landscape also facilitates certain practices. For example, Boy F8 explained how he saw his brother betting on a skin in a video game, which he in turn learned by watching YouTube videos.

Discussion

The findings reveal how socialization processes shape early perceptions and practices around games of chance, gambling, and video games in the lives of young teenagers. Older siblings, friends, and online persuasive public discourses (e.g., on YouTube) influence young people's video game practices and early exposure to the broader virtual economy of games (e.g., skin gambling). This finding is in line with previous research which indicates that video gaming is a social activity for the majority of youth (Ferguson & Olson, 2013), that social learning takes place through peer modeling (Hardoon & Derevensky, 2002), and that game-related video bloggers on popular platforms such as YouTube have an impact on the social discourses and opinions surrounding games in the game community (Goodman et al., 2018).

All interviewed parents consciously guided the video game behaviors of their children. For most parents, these practices amounted to finding ways to give their teenage son or daughter a certain level of autonomy, for instance, by providing space for discussion, looking for ways to reach a common agreement, establishing a climate of trust, explaining the rationale behind decisions, and relying on monitoring rather than proactive restrictions. This finding is also in line with previous research that has suggested that Belgian families find a balance between enabling and restrictive mediation (Mostmans, 2016; Symons et al., 2017; Zaman et al., 2016) and

that in families characterized by a harmonious relationship between parents and children, parents are more likely to explain the rationale for their media education and to monitor their children's digital media use (Padilla-Walker et al., 2012). Many Western parents initiate discussions with their teens and monitor their online use without necessarily intervening, which is likely to afford autonomy and self-corrective behaviors (Wisniewski et al., 2015, p. 312). In this study, the interviewed preadolescents hinted at the existence of an autonomy-supported climate similar to that hinted at by the parents.

The findings also show that immediate and extended family members trigger early socialization into games of chance, which is further related to socialization processes at schools and in leisure clubs. Parents, grandparents, and, for instance, aunts and uncles, model behaviors to their younger relatives and occasionally even invite them to participate in games of chance activities. Such socialization practices are passed on from generation to generation and affect family members at a very young age, even before they reach the legal minimum age to play games of chance such as those involving scratch cards, which are restricted to those who are at least 18 years of age.

Both the parents and the preadolescents interviewed in this study seemed to accept games of chance, but were much more negative about gambling. The adult interviewees did not feel the need to talk about possible risks of games of chance, not even the parents who invited their children to play scratch games together, or those parents who explicitly mentioned that it is forbidden by law for preadolescents. When probing about possible preventive measures against games of chance or gambling, the adult interviewees did not hint at their own modeling behavior. They were convinced that it is not relevant to discuss these matters with their preadolescent son or daughter. This observation contrasts with the self-reports of the preadolescents, who pointed to early exposure to slot machines, online and offline poker, and skin gambling. None of this was reported by their parents. None of the parents thought that their teenage child had ever made micropayments in games, whereas half of the preadolescents reported doing so, mostly with the leftovers from gift vouchers.

This study has three important implications. First, the findings point to the risk of the normalization of games of chance activities as part of youth entertainment culture. The interviewed preadolescents and their parents held similar beliefs about games of chance, and preadolescents seemed to be influenced by the behavior of family members. These findings can be explained not only by Bronfenbrenner's Ecological Systems Theory, but also by the Social Learning Theory (Bandura, 1977; Reith & Dobbie, 2011), which shows how people are likely to monitor the behaviors of individuals who are perceived as similar (such as parents and peers), as well as the Sociocultural Development Theory, which posits that the child's social environment influences the ways in which the child makes meaning (Vygotsky, 1978). Previous researchers have already produced data which warn us about the negative effects of the social acceptance of gambling, the gambling activities of young people with family members at home, and the lack of concern that parents have regarding the

involvement of young people in this (Hardoon & Derevensky, 2002). These socialization factors, particularly as they unfold in family networks, are linked to the early introduction and possibly further developments of gambling behavior (Dussault et al., 2017; Gupta & Derevensky, 1998; Hardoon & Derevensky, 2002; Pitt et al., 2017; Reith & Dobbie, 2011). On the basis of this study, we can hypothesize that similar socialization processes unfold in relation to games of chance in a family context.

Second, the fact that parents are unaware of preadolescents' exposure to covert gambling mechanics, such as simulated gambling and predatory micropayments, has important implications for parental mediation and media effects research. When parents are unaware of these activities, parental mediation efforts cannot reach their full potential. The findings from previous research have nonetheless shown that parental monitoring and supervision play a crucial role, because when exerted in a relationship based on trust and dialogues, they are associated with a lower level of gambling in adolescents (Magoon & Ingersoll, 2006).

As parents seem to be little aware of the remixing of forms of gaming and gambling, the question is which type of parental mediation is most effective in preventing young people from risks and harm. The current body of research brings up conflicting perspectives on this issue. On the one hand, media researchers (Livingstone et al., 2017) have recommended that in families in which parents' digital literacy is low, restrictive mediation practices should be preferred as a preventive parental mediation strategy, even if that also means reducing online opportunities. On the other hand, research in pedagogy and developmental psychology provides considerable evidence that controlling parenting strategies are not always effective and, ironically, can provoke even more reactions and problems (Van Petegem et al., 2017).

In this study, we interpreted parental mediation not only from the perspective of considering parents' behavioural media guidance, as traditionally studied in media studies, but also from the perspective of considering notions of parental support and control, in accordance with parenting dimensions identified in pedagogy and developmental psychology (see Zaman et al., 2020a). Our multilayered perspective on parental mediation revealed that the participating families relied on autonomy-supporting parenting, which may explain why the preadolescents could benefit from a relatively broad set of online media opportunities. It is known that more online opportunities go hand in hand with more online risks (Livingstone et al., 2017), such as simulated gambling (King et al., 2014, p. 305) and predatory micropayments (King & Delfabbro, 2019). We acknowledge that longitudinal research is needed to answer the question of whether and under what conditions early exposure to converged forms of gambling in gaming is a stepping-stone to problematic behavior at an older age.

Third, given the importance of digital skills to promote the healthy online behavior and well-being of young people (Livingstone et al., 2017), and the fact that certain potentially problematic converged sites of play remain under the radar of parents,

we recommend not only focusing on the protective role of parental mediation, but also considering young people's ludo literacy capacities. Possessing a critical form of game literacy (Zagal et al., 2013) can help to heighten awareness and resilience in an increasingly converged and connected media entertainment world. This would also respond to calls from international gambling experts who have highlighted the need "to reassess young people's ability to discriminate between various types of digital and online gambling, given that the nature of gambling is changing rapidly within an evolving technological context" (King & Delfabbro, 2016, p. 204). Ludo literacy could thus be a way for players, as digital consumers, to detect predatory monetization techniques and gambling mechanics in the virtual economy surrounding games, rendering them less addictive. Given the negative effect of erroneous cognitive processes in pathological gambling (cf. sense of control and erroneous perceptions of randomness and chance; Delfabbro et al., 2009, p. 523; Hardoon & Derevensky, 2002), it is surprising that there is no literature on the ability of young people to distinguish between immersive game environments and the persuasive tactics used in gambling (Derevensky & Gainsbury, 2016, p. 3). In response, we hope future researchers will address this gap in literature and provide policy recommendations with respect to ludo literacy programs in youth (e.g., as part of media literacy programs) and design recommendations to implement proactive ludo literacy measures *by design* (e.g., avoiding dark patterns, adding technical age restrictions).

This study has two limitations. A first limitation is the relatively homogeneous sample. All participating families could be characterized as middle-class families with relatively harmonious relationships between parent and child. However, given the scarcity of research on early exposure to simulated gambling activities (King et al., 2014, p. 305) and our broad analytical lens, we did not consider preadolescents' previous knowledge or engagement in video gaming, gambling, or converged online activities as sampling criteria. As noted earlier, our inclusion criteria were as broad as reasonable possible within the boundaries of the study, so as to neither presume nor unnecessarily exclude potential participants on the basis of their existing knowledge and experience. In this context, previous research has warned of the increasing normalization of gambling practices and of the covert nature of some gambling practices that are "disguised" in socially accepted video games, making it difficult for parents and young people to recognize them, let alone "flag" them as distinct, potentially problematic features (Macey & Hamari, 2018). We acknowledge that it is now valuable to complement our findings with more in-depth insights from families with considerable experience in online gambling and gambling elements in video games.

Although one of the strengths of this study was that we were able to look at the perspectives of both parents and young people (in a response to calls from Schneider et al., 2017; Wyness, 2012), it was limited in that only one of the parents participated. Involving multiple parents or caregivers per child would allow us to assess the degree of consistency and harmony versus conflictual interactions around media use among the main socialization agents (Mares et al., 2018) and thus reveal potential differences in perspectives.

A second limitation is that our interview protocol did not call for deliberately asking about or probing for the connection between video gaming and gambling; this was chosen in order to see how and whether parents would comment on current trends. At the time of the development of the semi-structured interview guide, the literature on video- and gambling-related convergence phenomena such as skin betting and loot boxes was almost non-existent. Since then, scholars have identified and increasingly theorized about the "sportification" (Heere, 2018) and "gamification" (van Roy & Zaman, 2019) of society and the "gamblification" of sports (Lopez-Gonzalez & Griffiths, 2016). However, more empirical research is needed to fully understand these phenomena. Therefore, we recommend that future researchers, building on our qualitative exploratory research, take a more explicit look at young people's understanding and practices of simulated gambling and the virtual economy around video games. We also call upon future researchers to conduct a series of prevalence studies over time that would enable qualitative researchers to position their rich findings against the latest fluxes in young people's media use. The studies on the increased popularity of loot box purchasing (Brooks & Clark, 2019; Zendle et al., 2020), online and video game betting, offline lottery, offline betting, and esports (Macey & Hamari, 2019) are already a good starting point in this respect.

Conclusion

The results from this study show that certain gambling and games of chance activities remain under the radar of parents; parents do not consider active mediation on these issues to be relevant in children ages 11 and 12 years old; and parents are lenient towards the occasional active involvement of preadolescents in traditional games of chance activities in a familiar context. These findings point to the risk of the normalization of games of chance activities as part of youth entertainment culture. Moreover, since parents are not always aware of the first, often covert, gambling and games of chance activities of to which preadolescents are exposed to (along with some of their in-game micropayments), preventive parental mediation efforts cannot reach their full potential. For this reason, we hope that future researchers will investigate how critical forms of game literacy of both parents and young people in a converged media environment can help increase the resilience of young people who enjoy playing games.

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Submitted December 30, 2019; accepted July 27, 2020. This article was peer reviewed. All URLs were available at the time of submission.

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Competing interests: None declared (all authors).

Ethics approval: The Sociaal-Maatschappelijke Ethische Commissie (Social and Societal Ethics Committee, SMEC) of the University of KU Leuven approved on February 8, 2016, the research project "Clapp: Children's Ludoliteracy acknowledgment & parental proficiency" (approval number G-2016 02 473).

Acknowledgements: At the time of data collection, all authors were employed at the Institute for Media Studies of the University of KU Leuven, Belgium. The study was funded by a research grant from the Belgian National Lottery as part of the call for "Responsible gaming" (Belgium, Nationale Loterij, 2015-2016). The funder did not have an influence over any aspects of the study design, execution, analysis, interpretation, or dissemination of the results. The authors would like to thank the participants for their contributions during the data gathering.

Appendix A

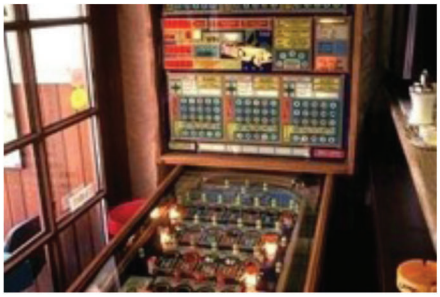
Interview probe with eight examples of games of chance and gambling. The captions were originally presented to the participants in Dutch; English translations were added between brackets for publication purposes.

Lotto - Joker - euromillions

Win for Life - krasloten (scratch cards)

Online poker

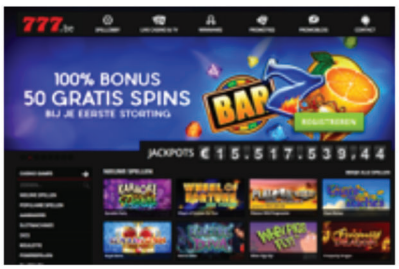
Scooore!



Bingomachine (Bingo machine)

Poker

Online wedden (online betting)



Online casino

Appendix B

Example card sorting materials as filled out and sorted by 'Father 10'.