

Preschoolers' Online Video Consumption Patterns and Self-Regulation

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Abstract

The study was to understand how online video consumption patterns affect preschoolers' self-regulation. A questionnaire was developed based on other scales in previous studies. The survey was conducted from June 3 to June 24, 2019, with 263 mothers of 3, 4, 5-year-old children enrolled in preschool and day care centers in South Korea. The analysis of the collected data was performed on SPSS 21.0, calculating frequencies and percentages and applying the t-test and one-way ANOVA. A considerable proportion of the respondents (41.4%) reported they permitted their child to use the online video platform before 24 months of age. Most children watched online video following the rules that their parents established (75.7%). Significant differences were found in children's self-regulation depending on the presence or absence of the rules at home, the amount of screen time limit, when to watch during the day or during weekdays. This study provides empirical evidence to set preliminary guidelines for the optimal viewing conditions for preschoolers to avoid online video addiction.

Keywords: preschooler, online video platform (OVP), online video consumption patterns, self-regulation

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Introduction

With the recent increase in smartphone use, various online video platforms have flourished (Girela-Serrano et al., 2022). An online video platform (OVP) enables users to upload, convert, store and play back video content on the Internet. YouTube is a typical example of OVP. YouTube is currently the most popular platform for consuming online video content in Korea. (Korea Communications Commission, 2017). YouTube is the application with the highest average consumption time per year (7.6 billion minutes) among teenagers, three times higher than the second-place application Kakaotalk (2.4 billion minutes) (Korea Press Foundation, 2018). Children have rapidly transformed into consumption leaders in the broadcasting content market (Jiang & Monk, 2016), and part of this phenomenon is due online videos' increasing popularity (Get the digital native, 2017). The major reason for this phenomenon is the rise of the "Digital Native" generation, which learns how to use electronic devices and consume digital content from an early age (Get the digital native, 2017). The online video consumption of children and infants also rapidly developed. Online video platform released the kids online video services in 2015, attracting more than 11 million viewers weekly thereafter (Oh, 2018). On Analysis of Korean YouTube-rank as of November, 2015, the online video channels with the largest increase in the number of subscribers were children, with 95% increase in viewing time. Eight out of the top 20 Korean online video channels with the largest increase in the number of subscribers release the contents directed to children.

As preschoolers spend a considerable amount of time-consuming digital media content, the effect of media consumption is attracting the attention of researchers. Previous research results concerning the effects of media viewing in Korea contradict each other. First, studies based on the digital media industry examined the applications and content design and attractive elements for preschoolers and presented preschoolers' dedication to media consumption as beneficial for their growth (Kim, 2019; Zulkipli & Aziz, 2019; Jeong, 2017; Jeong, 2017; Paciga et al., 2013; Hong, 2011). On the contrary, studies based on preschoolers' education and clinical psychology viewed preschoolers' online video consumption as negative or even harmful for their social-emotional development (Kang,

2017; Shin, 2013; Yu, 2013; Lee, 2015; Cho et al., 2017; Cho, 2016; Hong et al., 2014; Hong et al., 2008). To confirm their findings and resolve the existing discrepancies, further studies on children's media consumption are needed. As for parents, they reported that the OVP was the digital platform they most used (28.4%), even though they were aware of its negative aspects (Park, 2018). Nowadays, preschoolers spend more time watching online videos than 10 years ago. The gap in research concerning the update on the current status of preschoolers' consumption of online video contents indicate the need for further investigation.

Continuous exposure to digital media may result in difficulty in controlling the consumption of adequate content and the length of viewing time, leading to addiction (Park, 2020). Self-regulation variables, that is, the individuals' ability to control themselves, should be further examined. Preschoolers usually develop self-regulation to treat emotions and change during the ages from 3 to 5 years old (Hong et al., 2014). If this ability is not properly developed, negative effects could arise, such as lack of attention, hyperactivity, lack of academic motivation, and aggressive and defiant behaviors; in turn, these effects also negatively influence the formation of relationships with their peers and self-control over their action (Calkins, 1994; Kochanska et al., 1995; Lee, 2011). Self-regulation as a factor that could be affected by preschoolers' consumption of online video contents should be further investigated to prevent indulgence and provide guidelines for appropriate media viewing.

A large part of the existing literature on the topic has investigated the use of smart devices during infancy, as well as self-regulation and preschoolers' indulgence and addiction to smart devices. However, only a few studies have focused on the content of popular online video channels with contents targeting preschoolers. This study focuses on the current status of preschoolers' online video viewing patterns and how these patterns affect self-regulation. This study aims to support the development of the ability to judge and control online video viewing habits in the rapidly changing media world and provide guidelines for appropriate digital media consumption. The study questions are the following:

1. What is the current online video consumption patterns of preschoolers?
2. What are the differences in self-regulation depending on preschoolers' online video consumption patterns?

Materials and Methods

Subjects

Questionnaires were distributed to 340 mothers of preschoolers aged 3–5 that attended five selected preschool educational institutions (kindergartens or daycare centers) located in Seoul and the Gyeonggi province in South Korea. Of the total number of questionnaires, 304 questionnaires were returned (89%). Of these, 263 questionnaires were selected after excluding duplicates and incomplete responses ($n = 41$).

The study sample included 147 females (55.9%) and 116 males (44.1%). There were 98 4-year-olds (37.3%), 94 5-year-olds (35.7%), and 71 3-year-olds (27.0%). As for the order of birth considering their siblings, 135 were the oldest kids (51.3%), 109 were the second oldest kids (41.4%), 17 were the third oldest kids (6.5%), and 2 were the fourth oldest kids (0.8%). As for the primary caregivers, 228 were mothers (86.7%) and 35 fell into other categories (e.g., father, grandparent) (13.3%). As for the age of parents, 154 caregivers were

Table 1. *Demographic Information of Subjects (N = 263)*

Category	<i>n</i>	Percentage (%)
Sex	Boy	44.1
	Girl	55.9
Age (years)	3	27.0
	4	37.3
	5	35.7
Order of birth	The oldest	51.3
	The second oldest	41.4
	The third oldest	6.5
	The fourth oldest	0.8
Primary Caregiver	Mother	86.7
	Other	13.3
Age of Mothers	20s	0.4
	30s	58.6
	40s	41.1
Employment Status of the Mother	Working mom	52.5
	Housewife	47.5

in their thirties (58.6%), followed by 108 participants in their forties (41.1%), and one woman in her twenties (0.4%). As for the mother' employment status, working mothers accounted for the majority of the contestants (n = 138; 52.5%) followed by housewives (n = 125; 47.5%).

Questionnaires and Scales

The Current Status of Preschoolers' Online Video Consumption Patterns

The questionnaire was reconstructed based on Lee's (2014) scale of smart device usage habits for preschoolers and Moon's (2017) questionnaire about the general status of preschoolers' smart device usage. The questionnaire was developed so that parents could observe and fill out their children watching online video in their daily lives. The reconstructed questionnaire was verified for validity by two experts in early childhood education. The questionnaire included a total of 27 questions, with 4 items concerning the basic information about watching online video (e.g., rules, do you or Does your family set rules for your child to watch online video?; starting age, what age does your child began watching online video?; frequency, how many times a week does your child watch online video?; schedule, when does your child watch online video?(weekends only, every day after school etc.); watching time, how long do you allow your child to watch online video at once?), 13 items examining the online video consumption habits (e.g., where does your child often watch online video?; what kind of device does your child use to watch online video?; the method your child search for the content; the online video channel your child prefer; how do you monitor your child's watching online video?; does your child watch online video with someone else like siblings, peers, parents; how does your child response to the advertisement; the types of content your child prefer), 7 items about preschooler's reactive behaviors while watching online video videos(e.g., My child's general reaction while watching online video; My child's reaction when watching is interrupted by parents; child's reaction when the child is interested in the online video; My child's reaction when the child is not interested in the online video), 3 items studying the parental criteria to allow the preschoolers to watch online videos (e.g., I do not allow my child to watch online video when my child is at preschool or day care center; I do not allow my child to watch online video when my child is with me or father; I do not allow

my child to watch online video when my child is with the caregiver).

Preschoolers' Degree of Self-Regulation

The scale developed by Lee (2003) for parents to fill out for their children was used. This scale consists of 31 questions in 4 categories (5 questions about self-evaluation behavior, 9 questions about self-determination behavior, 10 questions about behavioral inhibition, and 7 questions about emotionality). Each question is rated on a 5-point Likert scale, ranging from "Not at all" (1 point) to "Very Much" (5 points). For the category of emotionality, the score was inversely calculated as the items were negative, meaning that the lower the score the more positive emotionality it reflected. The Cronbach's α coefficient for the overall questionnaire was 0.81 and the reliability of each sub-scale was 0.80 for the self-evaluation category, 0.79 for the self-determination category, 0.83 for the behavioral inhibition category, and 0.74 for the emotionality category.

Procedures

To validate the items of the measurement tools and the appropriateness and reliability of the research procedure, a preliminary survey was conducted from March 11 to March 15, 2019, with 10 mothers of preschoolers aged 3–5 enrolled in a preschool educational institution located in Seoul. The results of this pilot study were not included in the main study's results. After correcting some awkward and incomprehensible questions based on the preliminary survey, the revised questionnaires were distributed through emails, mobile webpage links, and by visiting institutions in person from June 3 to June 24, 2019.

Data Analysis

The 263 questionnaires were analyzed using SPSS 21.0. First, the frequencies and percentages were calculated for all the items on the questionnaires. Second, the t-test and one-way ANOVA were computed to unravel the differences in preschoolers' self-regulation depending on their online video consumption patterns. Third, Scheffé's post-hoc test was used to examine the significance of paired means. In all cases, 0.05 level of significance

was used.

Findings

Preschoolers' Online Video Consumption Patterns

The basic information about preschooler's watching the online video content is presented in Table 2. It can be seen that 75.7% of the respondents reported that they apply rules to let their children watch online videos. The rule about the watching time was the most important representing 38.5% of the sample. Among the respondents who answered "there are no rules", 42.2% reported that they interrupted the videos while their kids were watching. As for the frequency, 1–2 times per week represented the most popular practice of the caregivers (54.8%). As for the age when the children started using the platform, 58.6% of the respondents reported allowing it at 25 months, a percentage close to that corresponding to the age of less than 24 months (41.4%). The majority of the caregivers (41.4%) responded

Table 2. *Preschoolers' Basic Information about Watching Online Videos*

<i>N</i> = 263		<i>n</i> (%)		<i>n</i> (%)
Rules	Yes	199 (75.7)		Frequency (How many times a week)
	No	64 (24.3)		61 (16.5)
How to Monitor Without rules (<i>n</i> = 64)	No guidance	3 (4.7)	Content of rules (multiple responses; <i>n</i> = 369)	Watching time (How long you allow child to watch at once)
	Parents randomly interrupting while the children are watching a video	27 (42.2)		142 (38.5)
	Kids are self-restrained without any rules	19 (29.7)		Schedule (When to watch)
	Teaching differently depending on the situation	15 (23.4)		41 (11.1)
				The types of content of YouTube
				52 (14.1)
Frequency	1–2 times per week	144 (54.8)	Age of children when they started using YouTube	Posture while watching
	3–4 times per week	41 (15.6)		53 (14.4)
	> 5 times per week	78 (29.6)		Others
				20 (5.4)
Watching time	Up to 20 minutes	56 (21.3)	Schedule	Before 24 months
	21–40 minutes	108 (41.1)		109 (41.4)
	41–60 minutes	49 (18.6)		After 25 months
	> 60 minutes	50 (19.0)		154 (58.6)
				Only during the weekend
				76 (28.9)
				After dinner time
				59 (22.4)
				Afternoon/after school
				61 (23.2)
				Whenever
				67 (25.5)

that they allowed 21 to 40 minutes of usage as watching time. Concerning the schedule of watching online video content, “only during the weekend” was the most popular answer (28.9%), followed by “regardless of a schedule”, representing 25.5% of the sample.

Preschooler’s online video consumption habits are described in Table 3. As for the place, 64.6% of respondents answered that their children watch online videos at home. Almost two-thirds of the respondents (60.9%) answered that their kids watch online video while being supervised by their parents. As for the device, 58.2% of the respondents reported using smartphones. Two-thirds of the respondents (64.3%) reported using online video, followed by online video for kids. In the context of a company while watching videos, 76% of the respondents answered that their kids watch online video with others (siblings, friends, or parents). Concerning the method they apply to search for content, 52.9% of the respondents answered that they use online video’s search bar already recorded. As for the preschoolers’ reaction upon encountering advertisements, 76% of them click on the “skip” button. In the

Table 3. *Preschooler’s Online Video Consumption Habits*

		n (%)			n (%)
Place to watch	Home	170 (64.6)	Environment	Wherever the preschooler wants to watch	24 (9.1)
	Other	93 (35.4)		While being supervised by their parents	160 (60.9)
Device	Smartphone	153 (58.2)	Applications	Only near parents	79 (30.0)
	iPad/Tablet	67 (25.5)		Online video	169 (64.3)
	PC	8 (3.0)		Online video for Kids	94 (35.7)
	TV	35 (13.3)	Company	Alone	56 (21.3)
	YouTube channels’ playlist	39 (14.8)		Accompanied (siblings, friends, and parents)	207 (78.7)
Method to Search content	YouTube’s search bar	139 (52.9)	Kids’ reactions to advertisements	Watch	31 (11.8)
	Through OVP’s subscription	22 (8.3)		Click on the “skip” button	200 (76.0)
	Choosing videos from the recommended content on OVP’s main page	63 (24.0)		Ask others for help	24 (9.2)
				Do something else for a while and watch again after the end of the advertisement	8 (3.0)
Preferred Content types	Toy reviews	92 (35.0)	Preferred channels	Channels run by preschooler	46 (17.5)
	Fairy tales (animation) and nursery rhymes	114 (43.3)		Channels for commercial purposes (e.g., product review channels)	24 (9.1)
	Educational (Korean, numbers, English)	12 (4.6)		Channels with famous cartoon characters	152 (57.8)
	Games, play	33 (12.5)		Educational channels	27 (10.3)
	Experiment, study	5 (1.9)			
	Other	7 (2.7)		Other	14 (5.3)

case of the preferred content types, 43.3% of the respondents answered they preferred fairy tales (in animation) and nursery rhymes, followed by toy-review content (35%). As for their preferred channel, 57.8% of the respondents answered that they prefer channels with their favorite famous cartoon characters.

Preschooler's reactive behaviors while watching online videos and parental criteria to allow the preschoolers to watch online videos are presented in Table 4. As for the preschoolers' reactions when watching online video videos, the most common answer was that they are immersed (34.2%), followed by the answer that they imitate what is shown in the video (28.1%).

Table 4. *Preschoolers' Reactions and Parental Criteria*

		<i>n</i> (%)			<i>n</i> (%)
Children's Reactions	Immersed while watching	90 (34.2)	Reactions when the video is interrupted	Persuading parents to let them watch more	95 (36.1)
	Copying the Online video content (accent and action)	74 (28.1)		Crying and becoming angry	59 (22.4)
	Desiring the company of the people around them	38 (14.4)		Stop watching and waiting to watch it later	104 (39.5)
	Choosing the part they want to watch	61 (23.3)		Other	5 (2.0)
Crying and Becoming angry (N = 59)	Less than usual	4 (6.8)	Reactions When interested	Watching the same video repeatedly	149 (56.7)
	Same as usual	39 (66.1)		Watching interesting parts repeatedly	36 (13.7)
	More than usual	13 (22.0)		Subscribing to the Online video channel	30 (11.4)
	Showing a different pattern of behavior than usual (e.g., being aggressive)	3 (5.1)		Click on the "like" button	2 (0.8)
				Other	46 (17.4)
Preschool Educational institutions	Never allow to watch Online video	6 (2.3)	Reactions when not interested	Switch to another channel	146 (55.5)
	Not allowed if possible	61 (23.2)		Switch to another section of the video	33 (12.5)
	It is not important if it is adequate amount of watching time.	192 (73.0)		Turn off the application or do other activities while videos are still being reproduced	42 (16.0)
	It doesn't matter	4 (1.5)		Ask others for help	36 (13.7)
				Other	6 (2.3)
Other caregivers	Never allow to watch Online video	14 (5.3)	Parents	Never allow to watch Online video	6 (2.3)
	Watching is not being allowed if possible	84 (31.9)		Not being allowed if possible	72 (27.4)
	It is not important if it is adequate amount of watching time.	162 (61.6)		It is not important if it is adequate amount of watching time.	182 (69.2)
	It doesn't matter	3 (1.2)		It doesn't matter	3 (1.1)

As for children's reactions when their parents interrupt the video, 39.5% of the respondents reported that children do not protest and wait until the next time to watch the video. This answer was followed by the reaction of trying to persuade the parents to let them watch the video (36.1%) or crying and becoming angry ($n=59$, 22.4%). Among the latter ($n=59$), 66.1% responded that this crying and angry reaction was similar to that occurring in other situations in daily life and 22% of the sample reported that it is stronger. As for their interests in online video content, 56.7% of the participants reported that their children watch repeatedly the same content. As to their reaction when they lose interest, 55.5% of the respondents answered that they switch to other channels.

When examining the parental criteria to allow preschoolers to watch online video, i.e., the questionnaire asked in preschool and day care centers whether it is appropriate for child to watch an online video, with non-parent caregivers, whether it is appropriate for child to watch an online video and with parents, whether it is appropriate for child to watch online videos. The caregivers responded that it was not important whether it is in institution nor non-parent caregivers nor parents if it was an adequate amount of watching time.

Preschoolers' Self-Regulation and Online Video Consumption Patterns

Table 5 shows preschoolers' self-regulation related to online video consumption patterns, specifically rules, starting age of watching online video and company while watching. When comparing self-regulation between the conditions of presence or absence of rules, self-regulation was high when there were rules and significantly different from the "no rule" condition ($t(261) = 2.08$, $p < 0.05$). However, there was no statistically significant difference

Table 5. *Self-regulation according to Rules, Starting-age and Companion*

$N = 263$		Self-Regulation Mean (Standard Deviation)	t (p-value)
Rules	Yes	110.85 (13.54)	2.08
	No	106.89 (12.33)	(0.038)
Age of children when they started using Online video	24 months or younger	109.87 (13.13)	-0.02
	25 months or older	109.90 (13.53)	(0.985)
Company when watching videos	Alone	108.32 (14.05)	-0.99
	With others	110.31 (13.14)	(0.322)

in self-regulation relating to the starting age of online video using ($t(261) = -0.02$, ns). Children who watched videos with others had higher self-regulation than children that watched videos alone, but this difference was not statistically significant ($t(261) = -0.99$, ns).

Table 6 presents the preschoolers' self-regulation aspects according to frequency, i.e., how many times a week, watching time at a time, schedule, i.e., when to watch during the day or during weekdays and preschooler's reactions. There are significant differences in self-regulation according to online video watching time ($F(3) = 4.48$, $p < 0.01$). The post-hoc test showed that preschoolers who watch videos more than 1 hour ($M = 105.00$, $SD = 13.34$) had lower self-regulation than those who watch up to 20 minutes ($M = 112.32$, $SD = 14.54$) and between 21 and 40 minutes ($M = 112.00$, $SD = 13.06$). The schedule significantly affected self-regulation ($F(3) = 3.59$, $p < 0.05$). Specifically, preschoolers who watch videos only during the weekend ($M = 112.32$, $SD = 14.54$) had stronger self-regulation than those who use the platform without a schedule ($M = 98.83$, $SD = 10.80$). Also, self-regulation significantly changed according to the children's reactions when the online video was interrupted ($F(2) = 4.77$, $p < 0.01$). Preschoolers who attempted to convince their parents to let them continue watching ($M = 109.00$, $SD = 12.59$) had lower self-regulation than those

Table 6. *Differences in Self-regulation according to Preschoolers' Online Video Consumption Patterns*

		Self-Regulation Mean (Standard Deviation)	F (p-value)	Post-hoc test (Scheffé)
Frequency	1–2 times a week	109.28 (12.52)	0.37 (0.693)	
	3–4 times a week	111.07 (15.30)		
	> 5 times a week	110.40 (13.34)		
Watching time	Up to 20 minutes (a)	112.32 (14.54)	4.48 (0.004)	a, b > d
	21 to 40 minutes (b)	112.00 (13.06)		
	41 minutes to 1 hour (c)	107.45 (11.04)		
	> 1 hour (d)	105.00 (13.34)		
Schedule	Only during the weekend (a)	112.32 (14.54)	3.59 (0.014)	a > d
	Dinner time (b)	110.58 (12.60)		
	Afternoon/after school (c)	105.84 (13.42)		
	Whenever (d)	98.83 (10.80)		
Reactions when The video is interrupted	Convincing their parents to let Them continue watching (a)	109.99 (12.59)	4.77 (0.009)	a < c
	Crying and becoming angry (b)	105.65 (12.12)		
	Stop watching and watch it later (c)	112.22 (14.19)		

who conformed and watched the video later ($M = 112.22$, $SD = 14.19$). However, there were no statistically significant differences in self-regulation relating to frequency of watching online video a week ($F(2) = 0.37$, ns).

Discussion and Conclusions

This study was conducted to examine the current status of preschoolers' online video consumption patterns and self-regulation behaviors relate to usage of the online video platform. As for online video viewing rules, many caregivers responded that they applied rules. The duration of usage of the platform was the most commonly applied rule. This finding supports previous studies where caregivers reported restricting the use of smartphones at home (Kang, 2014; Kim; 2017; Lee, 2014). In case no rules were applied, the caregivers reported they randomly intervened while the children are watching or taught kids what to watch and how to watch differently depending on the situation. Both methods could confuse children. The Kaiser Family Foundation (2003) stated that families should create proper rules about the adequate usage time of smart media. Therefore, parents should create the rules and help preschoolers follow them consistently.

More than half of the respondents (58.6%) answered that the age of their children when first permitted to start watching online videos was at least 25 months. This is in line with the results of Kang (2014) and Park (2014) about the age children begin to use smart media. Meanwhile, a considerable proportion of the respondents (41.4%) reported they started using the Online video platform before 24 months of age. This contradicts the recommendation of the National Information Society Agency (2018) to avoid exposure to smartphones before the age of two.

Most of the respondents reported a frequency of use of 1–2 times per week, a finding that confirmed Lee's (2014) results about the frequency of smartphone use. Almost 41.1% of the sample reported permitting a watching time of 21–40 minutes, which was relatively longer than Lee's (2014) results concerning smartphone use (up to 20 minutes). In 2016, the American Pediatrics Association recommended that children aged 2 to 5 should be allowed to spend less than 1 hour per day and less than 20 minutes at a time on online video (National

Information Society Agency, 2018). Therefore, parents should consider a viewing time that does not exceed 20 minutes when creating the relevant rules. Additionally, they should ensure that children are consistent and repeatedly practice the rules by themselves.

As for the schedule, the most common answer was that children were allowed to watch online videos only during the weekend. This result confirms the studies that compared the media usage time during weekdays and weekends (Kim, 2017; Yang, 2019). It also confirms another study's results, where it was demonstrated that preschoolers usually consume media even when spending time with their families (Kim, 2017). Early childhood education institutions and local communities should provide family educational programs for parents to play with their children while watching online videos so that watching online video can be a play opportunity to communicate and share with others, not a time to play alone and passively watching.

When analyzing preschoolers' online video consumption habits, most preschoolers watch online videos at home and in the company of their siblings, peers, or parents. Most respondents reported that preschoolers usually watch online videos while being supervised by their parents. This result means that preschoolers adopt their habits from older siblings or primary caregivers. Therefore, parents should set an example about media usage for their kids.

Most respondents answered that they use smartphones to watch online videos. Parents should use the online videos for kids application to be updated about content adequate for preschoolers and avoid exposing their kids to possibly harmful content. Respondents answered that preschoolers search for what they want to watch using the OVP search bar and click on the "skip" button when they encounter advertisements while they are watching online videos. This means that preschoolers are efficient in using the OVP by themselves. As for their favorite channels, most respondents picked fairy tales and nursery rhymes. This support the results of Park and Shin's (2010) study, where it is supported that the most common reason to use smartphones was the fun and entertaining element. Therefore, a high-quality educational entertainment (also referred to as "edutainment") program considering the interest and development of preschoolers will increase the positive effect of online video viewing.

As for the preschoolers' reaction when watching online videos, most respondents answered

that their children usually are immersed in the activity. When the video is abruptly interrupted, most of them reported that their children do not react and watch the online video later (39.5%), while 22.4% reported that their children cry and become angry asking for permission to continue watching (22.4%). In the case of preschoolers who cry and become angry, 22% of the respondents answered that these reactions are more intense than usual. Yoon (2015) pointed out that preschoolers who are too immersed in using smartphones present emotional clashes and impulsive behaviors, like nagging or shouting. It is important to know preschoolers' online video consuming routines may result in addiction. Therefore, it is important for parents to help child to build appropriate online video consumption habits in early years. Moreover, parents should be firm about following the set online video viewing rules, without negotiating them with their children.

When asked about the criteria for allowing preschoolers to watch online videos, all respondents answered that it is permitted if preschool educational institutions, primary caregivers, or parents let preschoolers use online video within an adequate time, about 20-40 minutes. This implies that the parents recognize that online video is an inevitable trend for every setting. Along with appropriate guidance from parents, it is required to develop content that is educational and can positively affect preschoolers.

As for online video's positive effects, most respondents answered that the platform offers opportunities to learn a variety of information. This supports previous results showing that parents usually use smartphones to build up their kids' learning abilities with new learning materials and methods (Lee, 2014). However, concerning the negative effects, most respondents answered that their children might be too immersed. In the same vein, it has been shown that kids become more addicted to digital media if they watch videos on smart devices (Park, 2017). Therefore, parents should provide an adequate environment for their kids to avoid becoming too immersed in the OVP.

As for the differences in self-regulation according to preschoolers' online video viewing patterns, significantly stronger self-regulation was found when children followed the rules on using online video than children without rules. This is in line with previous studies showing that preschoolers had stronger self-regulation when they actively interacted with other adults within the context of their rules or promises (Bergin & Bergin, 1999; Kang & Shim, 2011). Preschooler's online video consumption habits initially formed can affect other

developmental areas of them and result in addiction, so it is important for parents to co-create the rules with their kid before permitting them to use the online video platform and follow the rules consistently.

Furthermore, in this study, preschoolers' self-regulation depended on online video watching time. Preschoolers who watched online video for more than 1 hour at a time showed weaker self-regulation than those who watched for either up to 20 minutes or between 21 and 40 minutes. Thus, parents should attempt to restrict the watching time for their kids to a maximum of 40 minutes at a time. This finding is in line with numerous studies, which demonstrated that the time spent on smart media affected preschoolers' self-regulation (Kang, 2014; Park, 2011; Seo 2013). Additionally, preschoolers' addiction to smartphones negatively impacted and lowered their levels of self-regulation (Kim, 2016; Jo & Hong, 2019; Hwang, 2013).

Here, it was also found that preschoolers' self-regulation depended on the schedule of consuming online video content. Preschoolers who watched online videos only during the weekends showed stronger self-regulation than those who did not follow a schedule and had free access to the platform. This finding supports another study, which showed that letting kids watch online videos for 1 hour on the weekend was a decision that did not affect the children, if and when the rules were firmly followed by both the children and the parents (Park et al., 2010). As a result, it is important for parents to set their own time and watch online video as an example for their children. In addition, rules should be set to the extent that children can follow themselves through agreement with their children (Kim & Kim, 2019).

Preschoolers' self-regulation also depended on their reactions to the interruption of a video. Preschoolers who did not protest and would watch the video later showed stronger self-regulation than those who tried to persuade their parents to let them continue watching. This implies that adults should guide preschoolers by observing their reactions to such events, as other studies have shown that this age group usually lacks self-regulation and become easily addicted and negatively affected by smartphone usage (Kim, 2010; Yu, 2014; Lee, 2010; Cho, 2010; Hwang, 2013). In this context, parents should be firm concerning the online video rules even if their children cry or become angry to persuade them, as such situations may weaken their kids' self-regulation.

To summarize, parents should consider that their kids are living and growing in a digitalized society and not demonize the consumption of online video content. Caregivers should guide children to follow adequate rules and acquire appropriate watching habits, as for preschoolers it is hard to control their online video watching routines on their own, a situation that when uncontrolled may result in addiction. Therefore, parents should provide their kids with appropriate content and an adequate environment, while trying to convert it into a common family activity and maintaining consistently the agreed-upon watching habits.

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