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Can Video Gaming as a Family Improve Communication Skills and Promote Social-Emotional Growth in Preteens?: Lessons from "Co-Play" in Korean Parent-Child Relationships

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Abstract: Drawing on theories of parental mediation, social-emotional learning, and participatory learning, this study explores how familial co-play affects family communication, relationships and learning using both an online survey (n=76) and a semi-structured interview of 14 Korean families and preteen children (n=30). We found that co-play enables social-emotional learning by enhancing moods, nurturing emotional sensibilities, and providing opportunities for self-discipline. As a form of participatory learning, we also observe that co-play can develop skills of negotiation-persuasion, time management, and mood surveillance. One key implication is that co-play enables a more interactive mode of communication than do other family leisure routines.

Keywords: video game co-play; parental mediation; participatory learning; social-emotional learning; Korean preteens

1. Introduction

Video games have become an important medium of entertainment and socialization for children and adolescents. Gaming has become a common family leisure activity, and this became even more pronounced during the COVID-19 pandemic: According to the Entertainment Software Association's annual report (2022), 77% of parents play video games with their children (called "co-play") regularly, up from 74 % in 2021 and 55% in 2020. Parents report co-playing video games with their children because for fun (66%); to socialize as a family (56%); and because they believe that video games can be educational for their children, especially through the development of communication skills (80%). Likewise, parents in Korea have increased their rates of co-playing with children. A 2022 game industry white paper in Korea approximates that 59.3% of parents play video games with their children (age 8–19); that percentage has continuously increased every year since 2017 (43.9%). COVID-19 also positively influenced the co-play with parents and children in Korea; the percentage has reached 56.3% in 2020 and 57.5% in 2021 (Korea Creative Content Agency, 2022).

Given the rise of co-playing as a leisure activity among families, scholars have begun to take interest in its dynamics and impact within familial relationships. While some research have identified limitations and negative impacts of playing video games on family relationships, particularly related to competitiveness and addictiveness (Sheffield, 2014; Wang et al., 2018), other research—and much of the popular discourse— suggest that co-play can have a beneficial impact, namely by enhancing family communication (Kang, 2023; Sobel et al., 2017), family bonding (Wang et al., 2018), family learning (Siyahhan & Gee, 2018), intergenerational understanding (Osmanovic & Pecchioni, 2016), and socioemotional wellbeing (Toh & Lim, 2021).

This study adopted parental mediation theory, social-emotional learning, and participatory learning as theoretical frameworks to examine how parents' and children's experiences of co-play affect family communications, relationships, learning using an online survey and in-depth semi-

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structured online interviews of 14 Korean families, including parents (n=14) and preteen children (n=16) who engage in co-play.

2. Literature Review

2.1. Family Communication, Relationships, and Video Games

Research has examined the impact of digital technology use on family life, specifically on family communication, relationships, and learning. Padilla-Walker et al. (2012) found that high amounts of family media consumption (e.g., cell phone, television, video games) is correlated with high levels of family connection. Studying how video games affect family communication, O'Neill (2002) compared two different age groups (fifth graders and eleventh graders), and found that as children get older, they talk less with parents about video games. Moreover, O'Neil found that younger children are more likely to negotiate with their parents about video game-related issues than older children.

Intergenerational family game playing has been found to foster parent-child relationships, to produce positive emotions, and to help to overcome disruptions of family (Osmanovic & Pecchioni, 2016). Co-play can reduce the digital divide among family members by enabling parents to use technology literacy to foster their parenting skills (Musick et al., 2021). Co-play can also enhance familial relationships by enabling family members to reflect on and to negotiate the boundaries of their relationships (Steinkueler & Williams, 2006). Wang et al. (2018) argued that the frequency of family co-play positively affects closeness. By participating together in the same activity, parents and children may experience a sense of camaraderie, and can even switch roles from learner to teacher because children often show better game skills than parents (Sobel et al., 2017). Co-play can afford the experience of "the fluid leadership dynamics between parents and children," potentially leading to a democratized family life (Musick et al., 2021, p. 11).

2.2. Parental Mediation

Parental mediation theory proposes that parents deploy several interpersonal strategies to maximize opportunities and minimize problems of children's media usage (Clark, 2011; Jiow et al., 2017). Previous research has drawn on parental mediation theory to investigate the benefits and risks of parental intervention in children's playing video games, focusing on the three key criteria: restrictive mediation, active mediation, and co-play (Coyne et al., 2011; Jiow et al., 2017; Martins et al., 2017; Nikken & Jansz, 2006; Sheffield, 2014; Shin & Huh, 2011; Sobel et al., 2017).

Restrictive measures include setting rules about children's media use, including managing game time, providing conditions to be fulfilled before playing video games (e.g., household chores, schoolwork), and identifying permissible games (Jiow et al., 2017). Restrictive mediation is more straightforward, easier to implement, and thus more convenient for parents than other strategies (Shin, 2015).

Active mediation refers to the way discussing questionable content and usage of gaming with children. Parent-child conversations regarding the issues of game addiction and violent content can increase mutual reciprocity and healthy relationships (Jiow et al., 2017; Shin, 2015). By sharing evaluations and interpretations of media and content, active mediation can produce educational (e.g., cognitive skills, critical thinking) and socializing (e.g., sharing of ideas, negotiation) effects (Clark, 2011; Rivera et al., 2021).

Some scholars have found that co-use has the most active and positive effects on family communication among parental mediation strategies (Coyne et al., 2011). Parents expressing relatively positive attitudes toward violent television preferred to use co-viewing, while those with negative attitudes used restrictive and active mediation strategies (Nathanson, 2001). Acknowledging co-playing as the most interactive and participatory measure, recent studies on family gaming have focused on this measure (Kang, 2023; Sobel et al., 2017; Toh & Lim, 2021; Wang et al., 2018).

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2.3. Participatory Learning and Social-Emotional Learning

Both participatory learning and social-emotional learning embrace the idea of learning as activities and relationships, going beyond mere information transmission. Participatory learning focuses on learning through action, leading to strategic initiatives and utilizing eternal resources. Social-Emotional learning emphasizes the development of emotional awareness and interpersonal skills.

Participatory learning refers to the ideas and practices that families, neighbors, and peer members are engaged in collaborating, planning, and enjoying various activities (Vartiainen et al., 2020). Adding to the three parental mediation measures (restrictive, active, co-use), Clark (2011) proposes participatory learning as another conceptual tool through which socialization occurs in a family setting and children's input is adjudicated in parent-children interaction. The idea of participatory learning is also aligned with the notion of social-emotional learning, which focuses on how parents and children interpersonally collaborate in time management, relationship building, emotional self-management, and mood surveillance (Collaborative for Academic, Social, and Emotional Learning, 2019; Patico, 2020). Co-using media is regarded as an effective scaffolding strategy (Sobel et al., 2017) because parents and children frequently engage in using digital devices as they support each other with cognitive (e.g., verbal suggestions), affective (e.g., exclamations), technical (e.g., strategies), and physical interactions (e.g., high-fives; Ewin et al., 2020). Learning can be informative and cognitively challenging, but also emotional and relational. Thus, co-play can provide positive learning environments, which include opportunities of participatory learning, such as collaboration, mastering goals and skills, experiencing divisions of labor, exchanging physical-emotional supports, and mastering verbal instructions (Ewin et al., 2020; Sobel et al., 2017).

2.4. Game Culture in Korea

Korea has become one of the leading countries in the video game industry, equipped with resources and infrastructure such as state-of-the-art e-sports arenas and a stable high-speed internet network. The prosperity of the Korean gaming industry could not be possible without both the unique PC room culture that emerged in the late 1990s and continuous support from Korean government by enacting laws and regulations, such as "Act on the Promotion of E-Sports" (Korea e-sports Association, 2020).

Koreans in their 40s, especially males, are the first generation who played video games in PC rooms as leisure activities in late 1990s and early 2000s. Accordingly, they tend to be familiar with gaming culture and have relatively balanced perceptions, including positive and negative aspects of video games, compared to older age groups. Besides, they have different perception of fatherhood distinguished to traditional ways by experiencing rapid social and cultural changes during Korean economic crisis of 1997. The meaning of 'good father' for them were mainly influenced by the media and exposure to various cultures which reflect the desired images of 'good fatherhood' (Lee, 2014; Park & Kwon, 2019). Thereafter, it is more likely that spending time with their children has value for them because it is one of the ways to fulfill their role as a good father (Park and Kwon, 2019).

Previous studies on co-play via parental mediation (Martins et al., 2017; Nikken & Jansz, 2006; Shin & Huh, 2011) focused on teenagers or broad age groups. Although preteens may be mostly affected by their parental mediation strategies (Jadallah et al., 2023), the research examining co-play of parents and preteen children is limited. Besides, existing literature touches on the importance of co-play on family bonding (Wang et al., 2018), but has not deeply examined what specific characteristics and types of family communication affect family relationships, such as communication skills and emotional management. In order to fill the gap of literature, we addressed three research questions to examine how familial co-play affects family communication, relationships and learning with a particular focus on Korean parents, who are the first generation of video gaming and their preteen children.

RQ1. How do parents mobilize co-play and active mediation strategies to facilitate family communication?

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RQ2. What kinds of social-emotional learning effects are observed in co-play?

RQ3. What kinds of participatory learning effects are observed in co-play?

The findings of our study will enrich our understanding how co-play affects family relationships and learning.

3. Methods

This study adopted a sequential mixed method design. First, we conducted an online survey to gain demographic data and descriptive characteristics of Korean parents who play video games with their children. Then, we narrowed down our focus to those families where the parents co-play with their children in our target group, preteens (tweens; 8–13 years old), and conducted in-depth interviews with family members in those groups in Korea. We chose preteens as our target because preteens are more responsive and cooperative with parental mediation practices than teenagers, who are more likely to resist against parental mediation (Nikken & Jansz, 2006; Shin & Huh, 2011). Research protocols were reviewed and approved by the Institutional Review Board of a college in the Northeast, United States in 2021. Data are available at the Open Science Framework for review (https://osf.io/c896f/).

3.1. Survey Data Collection & Analysis

The main purpose of the first phase online survey was to explore basic demographic information and descriptive characteristics (e.g., game experience, gaming time, reasons for co-playing, and desired outcomes of co-playing etc.) of the parents who co-play video games with children and the other purpose was to recruit interview participants fit to our research focus. These data were collected using a convenience sampling via online survey (SurveyMonkey.com); survey participants were recruited via web postings in the popular Korean gaming communities. We offered survey respondents the chance to apply for a raffle for 20 $5 gift cards to increase the response rate and attached an invitation letter for the second phase (i.e., Zoom interview) following the survey.

There were 166 people who completed the online survey, but a final total of 76 responses were used for analysis after removing responses where parents did not co-play or who had non-preteen children. The data were analyzed using SPSS. The majority of the respondents were fathers (82.9%) in their 40s (86.8%). The ratio of child's gender was approximately 1 (female) to 1.82 (male), indicating that more boys are playing video games with their parents than girls in the current samples. Regarding the parents' gaming experience, more than half (57.9%) reported having played video games for longer than 10 years, and a clear majority (73.7%) reported having been co-playing video games with their children for less than 3 years. Most parents played with their children for less than one hour per week (46.1%) followed by 1–3 hour(s) (27.6%). Demographic characteristics are summarized in Table 1.

Table 1. Demographic characteristics of the online survey participants.

Demographics	Classification	Frequency	Percent
Number of child(ren)	1	30	39.5%
	2	38	50.0%
	3 and more	8	10.5%
	Total	76	100.0%
Gender (parent)	female	13	17.1%
	male	63	82.9%
	Total	76	100.0%
Gender (child)	female	27	35.5%
	male	49	64.5%
	Total	76	100.0%
Age (parent)	30–39	6	7.9%
	40–49	66	86.8%

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	50–59	4	5.3%
	Total	76	100.0%
Age (child)	9 and less	24	31.6%
	10–19	52	68.4%
	Total	76	100.0%
Game time/week (parent)	less than 1 hour	22	28.9%
	1–6 hour(s)	36	47.4%
	more than 6 hours	16	21.1%
	missing	2	2.6%
	Total	76	100.0%
Game time/week (co-play)	less than 1 hour	35	46.1%
	1–3 hour(s)	21	27.6%
	more than 3 hours	19	25.0%
	missing	1	1.3%
	Total	76	100.0%
Game experience (parent)	less than 10 years	29	38.2%
	over 10 years	44	57.9%
	missing	3	3.9%
	Total	76	100.0%
Co-play experience	less than 1 year	29	38.2%
	1–3 year(s)	27	35.5%
	over 3 years	20	26.3%
	Total	76	100.0%

Regarding the reasons for co-playing (multiple answers), 60 of the 76 (79.0%) parents reported doing so to improve their relationships with their sons and daughters. The other reasons were for leisure (55.3%) and education (31.6%). Slightly more than half of respondents (55.3%) expected positive educational outcomes from the co-playing activities, indicating some discrepancy over expected educational outcomes of co-play. Specifically, parents expected to improve communication (47.4%), analytical skills (34.2%), and cognitive skills (26.3%).

3.2. Interview Data Collection & Analysis

Following the surveys, we contacted the parents who consented to the follow-up interview from the initial online survey and conducted semi-structured interviews with some of the respondents to acquire detailed information on participants' experiences of co-play. In the qualitative phase, purposive and snowball sampling were used to recruit the participants. We had 15 interviews with 14 families (14 parents and 16 children) between December 2021 and October 2022 via Zoom due to the physical distance between the authors and the interviewees so as to abide by safety guidelines set during the COVID-19 pandemic. Out of the total of 15 Zoom interviews led by the authors, 12 interviews were conducted with parent(s) and child(ren) together. Two were parent-only interviews, and one was a children-only interview following the parent-only interview because of the difficulty of scheduling. Before the interview, the research protocol was explained, and the parents and the children agreed to participate in the interview by submitting the parent consent form. The researchers received permission from all participants to record their Zoom interviews. The average interview time was approximately 40 minutes. After completing an interview, we compensated the interviewees with $20 gift certificates. Most parents' samples, except for two cases, were fathers who had spent their teens and early 20s in Korea in the early 2000s. Basic demographics information for the participants can be found in Table 2.

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Table 2. Demographic information of the Zoom interview participants.

ID	Age		Gender		Occupation
	Parent	Child(ren)	Parent	Child(ren)	
#1	44	11, 13	Male	Female, Female	Profession
#2	43	12	Male	Female	Company employee
#3	52	12*	Male	Male*	Company employee
#4	45	10	Male	Male	Company employee
#5	46	9*, 11	Male	Female*, Male	Company employee
#6	49	9, 15	Male	Male, Female	Self-employed
#7	41	10*, 13	Male	Female*, Male	Company employee
#8	41	5*, 9	Male	Male*, Female	Company employee
#9	41	6*, 10	Male	Male*, Male	Profession
#10	53	8*, 10	Male	Female*, Male	Company employee
#11	45	8	Female	Female	Company employee
#12	45	9	Male	Male	Profession
#13	41(mother), 45(father)	11	Female, Male	Male	Company employees
#14	45	8, 10	Male	Female, Male	Company employee

Note. * signifies the child did not participate.

All interview transcripts were generated via Clova Note (about 900 pages in double-spaced), a web transcription service (clovanote.naver.com), and we coded the interview content using thematic analysis. Braun and Clarke's (2006; 2022) thematic analysis has been adopted by recent qualitative video game studies (Kou, 2020; Ortiz, 2019), as it embraces the coding process employing an inductive approach, which involves repeatedly reviewing the data to identify common patterns, trends, and categories. Both authors collaborated in finding repeated vocabulary and emerging trends from interview transcripts. Specifically, after one author drafted a summary report based on the interview transcripts, the other author reviewed the report. Both identified and coded recurring ideas and discourses that addressed our research questions. While this study has a relatively small participant pool, its main goal was not to generalize the results, but to address narratives delivering focal points in co-play.

4. Results

Based on the interviews, we observed the more parents spend time engaging in co-play and gaming, the more positively they perceive co-play. In a historical context, parents who experienced the fast growing and stabilizing gaming culture in Korea over the last two decades embrace gaming as a leisure activity and an opportunity to engage in intergenerational family bonding, thus valuing video games and co-play as a form of socialization. We identified three discursive patterns from the interview transcripts: 1) co-play as a bonding builder, 2) co-play as social-emotional learning, and 3)

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co-play as participatory learning. We also noted that co-play is closely interlocked with active mediation (talking with children via purposeful discussion). As a conceptual framework, social-emotional learning emphasizes self-management, relationship skills, and socialization (Collaborative for Academic, Social, and Emotional Learning, 2019). The notion of participatory learning seems to be a productive concept to evaluate co-play, and we utilized Toh and Lim's (2021) three categorical co-play modes (parent-directed, parent-child negotiated, and child-directed) as a heuristic to interpret the interview results. In the parent-directed style, parents play as an expert that mainly guides a child's play experience. In the parent-child negotiated style, they collaborate on missions, coordinate actions, share knowledge and strategies, and thus promote prosocial behaviors. In the child-directed style, the child plays the expert, leading play and occasionally teaching the parent, who plays as a learner and to support or accompany (i.e., offer companionship to) the child.

4.1. Co-Play for Talks: From an Icebreaker to a Bonding Builder

"Video games are a good icebreaker" (parent 13-2, 45 years old)

Our research reinforces that parents and children used co-play as a conversation starter and a bonding builder (Toh & Lim, 2021). In response to the first research question about how parents use co-play and active mediation to enhance family communication, our findings are consistent with previous literature in that family discussions on video gaming enable parents and children to share diverse perspectives on video games (Jiow et al., 2017). Additionally, co-play increases family closeness and facilitates bonding, as it enables communication in a manner distinct from other activities (Musick et al., 2021; Wang et al., 2018).

Being asked to elaborate why they love to co-play, both parents and children identified more family time, better conversations, and the sense of being together. The parents said that co-play provided an opportunity to put themselves in their children's shoes ("I guess I can see the things from my son's perspective" – parents 5 and 13-1). Participants expressed that parents and their children might not have talked as much to each other if they were not playing video games together', and parents suggested that this could have a positive long-term effect on the family. Parent 14's memory of playing Nintendo Mario games initiated his idea of co-play, and consequently he and his son came to share a common experience. Parent 1 likewise noted the positive experience of "inheriting" video games as an intergenerational activity (Osmanovic & Pecchioni, 2016).

The children expressed not only how much they love gaming but also how much they love gaming with their parents. As child 5 said, "I just love the fact that we play together!" Child 2 addressed the ways co-play had improved communication with her father, saying "I had little to talk to him about before co-play. As we play and spend more time together, I feel we have gotten closer than before." In other words, for these children, doing something as a family is more important than what they do (i.e., video gaming). Just as Sobel et al. (2017) asserted, "the experience does not necessarily have to do with the game itself but with what the game facilitates and fosters for family interactions and relationships" (p. 1488). Our interviewees reported strengthening their family relationships through increased (quantity) and expanded (quality) conversations through: 1) in-game communications (e.g., strategy exchange, checking game progress, cheering), 2) post-game conversations (e.g., reflecting on new items, experiences and characters), and 3) non-game related pep talks (e.g., talking about school, friends during down time in-game).

Of the three types, in-game communication was mentioned most frequently by interviewees, who described them as both functional (e.g., coordination, cooperation) and emotional (e.g., laughing, teasing). During co-play, family 9 reported frequently shouting, exclaiming, and high-fiving one another, as well as discussing in-game progress. Parent 9 expressed that the main reason they liked to co-play was to reinforce their close rapport. Likewise, family 6 often exchanged friendly teasing remarks during game play, a form of reciprocal interaction that facilitates cognitive (e.g., acknowledging the result, accepting loss), emotional (e.g., excitement, joy), and physical (e.g., inviting another round, practicing game skills) responses.

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Some families also expressed a preference for chatting following a co-play session because they are too busy to talk when they are playing. Following one difficult session, parent 12 encouraged his son not to give up easily in the future, while child 12 reported the desire to joke with their family about funny moments that happened during their play session (e.g., humorous mistakes someone made). Moreover, even when they did not play together, members of family 7 frequently discussed game-related topics (e.g., new game characters, game news), often initiated by the son.

Co-play can also help family members to have pep talks about non-game related topics. As family talks expanded, the children opened up to the parents. Child 5 said that co-play offered him the opportunity to talk with his father; likewise, father 7 stated, "I realized that it would be much easier to communicate with my son if I showed my interest in what he likes… [thanks to co-play I can] ask my son about his school life, friendship, and teachers, just as I chat with him about games." Additionally, while many respondents did not initiate co-play to talk, they nevertheless reported having many conversations as a result. While not necessarily mutually exclusive, the three types of expanded game conversations (in-game, post-game, and non-game related) are discursive activities, which are a form of dialogue allowing parents and children to share their perspectives (Jiow et al., 2017). Improving family communication via co-play could be fruitfully discussed by flexible understanding of education as learning, which includes social-emotional learning.

4.2. Co-Play as Social-Emotional Learning: Affective Skills and Mood Surveillance

> "Playing games together helps me to know how my son feels that day" (parent 10, 53 years old)

In response to the second research question about social-emotion learning effects observed in co-play, engaging in co-play lightens the family mood, according to the interviewees. Furthermore, interviewees suggested that co-play increases both parents' and children's emotional sensibilities and provides opportunities for children to practice self-discipline.

During the interview process, the researchers observed ambiguity in the parents' usages of terms of 'education' and 'learning.' The observed different understandings of co-play as 'education' and 'learning' is similar to how Siyahhan and Gee (2018) distinguished between narrow and broad perspectives of learning. The former is close to 'education,' a learning within formal settings focusing on improving cognitive skills, analytical thinking, and critical thinking, whereas the broad perspective includes developing affective skills, mood surveillance, and self-control when performing ordinary activities.

Research has found evidence that adolescents who play video games regularly feel emotions more intensely and can also manage their emotions better than those who do not (Gaetan et al., 2016). Hence, co-play may have a positive impact on mood surveillance. In our interviews, recognizing the frustration in a fellow player was often discussed. When a child lost a game and became emotional, parents recognized their frustration verbally, and children likewise acknowledged their parents' frustration over gaming playing, too (child 5). Furthermore, parents and children became self-reflective about their gaming ("When I was beaten completely, I felt bad but I tried to think 'maybe next time'" – child 4) and the emotions they felt through co-play ("I find it rewarding when the kids compliment my achievements in the game" – parent 1).

Some parents used children's experiences of losing games to talk about how to accept the consequences and strategies, and to discuss a win-or-lose logic in gaming ("We play games for fun, not to win" – parent 3; "It's okay to lose a game" – parent 4). This observation is consistent with previous research suggesting that family co-play improves sportsmanship and learning through losing (Musick et al., 2021). Verbal and non-verbal communications during co-play tends to enhance the sense of closeness. Family 11's game time is loud and festive because they communicated in various tones, including teasing, boosting competition, and playful taunting:

> *We shout, something like, "I am just behind you," "I can't see you!" or "You didn't know this, did you?" just to tease with each other. Or, we engage in a bit of psychological warfare, like, "You look tired today" or "You play so terrible!" (parent 11)*

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For parents, who are wary of the addictive and compulsive nature of video games, the most important concern was time management. Both parents 9 and 11 concurred with an idea that self-regulatory measures, not restrictive mediation, could make children to be patient. Parent 10 believed that if family co-operate, his son could understand better about game time. In this way, co-play allows children to be self-disciplined and conscious about media time management.

For the interview participants, the experience of being-together is crucial to building up interactions, responsiveness, and intimacy by enhancing a sense of comradeship ("Co-play is about teamwork… a sense of we-ness and cohesion" – parent 5). This echoes previous research, which found close bonding moments enable parents to adopt proactive rather than reactive approaches. Parents believed that co-play enabled them to understand their kids' feelings pre-emptively and deal with them proactively. While mood monitoring and life-lesson mediation might be initiated and directed by the parents, the children listen to parents and are often responsive to them. This is a moment of mutual respect and emotional scaffolding, through which parents and children share thoughts and engage in co-constructed mood surveillance.

4.3. Co-Play as Participatory Learning: Transmedia, Media Time Management, Role-Switching

> "I said 10 math pages for 10 minutes [game time]. Mom said 15 pages. Deal!" (child 14-2, 10 years old)

Everywhere we see it, co-play is a form of collaboration. Video games might not be designed to teach children explicitly, but children often become familiar with experimental learning, strategic thinking, and leadership through play.

In response to the third research question about what kinds of social-emotion learning are observed in co-play, we found that co-play helps children take the initiative in other family interactions, and that co-play consists of various types of child-directed and child-parent-negotiated processes. Although parents generally lead and manage the setting (e.g., choosing games, controlling game time) at first, children often collaborate with, negotiate with, and teach the parents. From our interviews, child-directed and parent-child negotiated processes include 1) transmedia activities, 2) media time management, and 3) role-switching.

Transmedia. First, children can explore game narratives and contents by engaging in transmedia activities. Transmedia content "[flow] across devices, platforms, and varied screen media" (Hills, 2017, p. 213), and consuming transmedia game content has been found an effective way to learn game strategies and skills (Kang, 2023). Transmedia usage is child-directed in that children are often self-motivated to learn new skills, to acquire new information and to experiment the games. Watching high-skilled players' YouTube videos, child 13 taught his mother new skills. While family 13's approach is child-directed, family 2 also take child-parent-negotiated activities:

> *We talk a lot about styles, stories, and background about the game we play. My daughter found related information, images, and videos of the game, and we talk about the franchise, its history, the hidden facts, and game strategies. I guess, we widened the scope of our talk and deepened it (parent 2)*

Parent 2 checked the rating, reviews, user recommendations, and storyline of the game first before sharing them with his daughter. If they agreed that the game is appropriate, they played it together, and when the daughter enjoyed the game, she researched the history, background, and alternate storylines of the game. After the father and daughter reviewed this information together, they discussed the next game to play.

In a parent-child negotiated approach within transmedia activities, parents' roles are multifold, including a content moderator, a resource broker, and a co-learner. Parent 12 emphasized that parents should be aware of children's exposure to inappropriate materials and binge-watching habits on the web. In order to cultivate children's long-term learning that helps them to acquire intrinsic knowledge and expertise, parents should "broker resources, experiences, and opportunities" for their children's engaging in gaming culture (Siyahhan & Gee, 2018, p. 28). In that sense, parents and

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children play together as learning partners so that they can share and develop common interests and knowledge.

Media time management. Second, as mobilizing child-directed approaches, children can exercise media time management and strategies. Many parents admitted how challenging it was to manage game times, yet as long as game time is properly controlled, the parents expected co-play to lead to healthy outcomes. Many parents emphasized co-play as an opportunity to practice meeting the deadline and managing game times (parents 6, 8, 9, 10, 11 & 13–1). The parents noted that their children do not merely follow orders but try to find ways to cooperate in making family game policies ("If I do house chores, can I play games more?" – child 8; "Instead of watching a whole movie, I would like to split the time: half for a movie, half for a game" –child 10). The more children negotiate with the rules that affect their lives, the more they play a role of an active protagonist, rather than that of a passive spectator in family.

Many parents (7, 9, 11 & 13) mobilized gamified measures (e.g., point system), and thus children continuously negotiate with their parents about game time, rewards, school works, and family chores. Calling his son a master of negotiation, parent 13–1 (mother) noted that while engaging in the family gaming reward (e.g., game time for chores), his son began to understand dos and don'ts within a family setting.

Family 14 had a reward system that they called the 'Yes Coupon,' whereby finishing a book or math questions could be exchanged for gaming opportunities. For example, by collecting and exchanging the coupons, children 14-1 and 14-2 bought a Nintendo Switch console. Although it was the mother's idea, child 14-2 suggested an additional reward: 10 pages of math assignments in exchange for 10 minutes of game time. The mother counteroffered with 15 pages for 10 minutes, and they agreed on the deal. In this way, the 'Yes Coupon' system combines persuasion, negotiation, patience, and time management. In family 11, children also negotiated rewards (e.g., game time, free snack), and parent 11 (mother) emphasized that her daughter responsibly engaged in the reward systems (e.g., reading the books & not forgetting the treat). This family embraces co-play as a family leisure routine, which occurs regularly (before bedtime) and honors the winner (free snack). The detailed procedures about the reward system were co-constructed and respectfully observed. Overall, self-regulatory family co-play incorporate such learning elements as linguistic literacy, strategic thinking, negotiation and persuasion skills.

Switching roles. From learner to teacher. Third, by actively participating in family co-playing, children can experience a role-switching. Co-play provides opportunities for both parents and children to switch their roles, and thus to have better understanding how family structure sustains' (Sobel et al., 2017). As a tech-savvy generation, the children often lead and teach their parents in gaming. While the parent 12 taught his son tactics of Minecraft, child 12 explains game characters' background story in Pokemon to his father. Child 11 always wanted to help her mother:

> *My daughter seemed to believe that she should help me because she knows better than me… She was confident when she helped me [in utilizing special skills and functions in Mario Kart racing], thinking 'I am the one who could take care of mom' (parent 11)*

The parents supported the role-switching during co-play, which rendered the children to a better understanding of family structures. Additionally, the child-directed co-playing could affect child's self-esteem. The parents found that their children show confidence in explaining gaming tactics (child 13) and in helping their parents (child 11 & 14). Through role-switching, family members take advantage of this digital literacy divide so as to strengthen familial relationships (Sheffield, 2014). The participatory learning is either child-lead or parent-child-negotiated, rather than parent-lead. The children often lead the role-switching, and the parents support the children so as to be familiar with family roles.

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5. Discussion

As an exploratory study on co-playing video games with parents and children, this study allows us to pay attention to the roles of video games in improving family communication and promoting social-emotional learning. It also enables discussion of the various roles of each family member. In response to the three research questions, we found that co-play facilitates family communication because co-play enables family members to share their unique perspectives on video games with one another both before and after play. Moreover, our findings reveal that co-play enables social-emotional learning by improving modes, fostering emotional sensibilities, and providing children with opportunities to engage in self-discipline in a safe and secure way. Additionally, as a form of participatory learning, we observe how co-play can offer opportunities for fluid leadership within a family setting (Musick et al., 2021), serving as a rich learning context that encompasses diverse social-emotional and participatory resources distributed among game players, characters, narratives, and contexts. Hence, co-play can increase negotiation-persuasion skills, develop time management skills, and foster mood surveillance skills.

Notably, the parents and the children in this study also appear to have maintained a healthy relationship. Over 40 percent of parents in the survey reported having spent three and more hours talking as a family per week, and the interview confirmed that the parents and the children frequently talk in person, sharing hobbies and outdoor activities. This phenomenon may more broadly characterize contemporary Korean parents, who perceive 'good parenthood' valuing family time and close-knit relationships with their children (Lee, 2014; Park & Kwon, 2019). At first, we expected that the COVID-19 pandemic had rendered video gaming to replace traditional family leisure activities. But it is not possible to conclusively determine that the pandemic was the sole precedent for co-play, as our informants addressed that they had long embraced various measures to improve and maintain family relationships, including video gaming.

Regarding gender aspects, there is a contradiction between our findings about the limited role of mothers in co-play and the recent data reported by the Korea Creative Content Agency (2022). According to recent statistics, more women (59.7%) reported playing games with their children than men (58.9%), highlighting the growing participation of mothers in video game co-play although these statistics include co-play using cell phones, whereas our findings were limited to co-playing video games. Additionally, the data includes women across various age groups; over 80.2% of parents in their 20s reported co-playing with their children, compared to 61.8% of parents in their 40s (Korea Creative Content Agency, 2022). In our data, except for families 11 and 13, we acknowledge that having few mothers in our co-play interview sample reflects a stereotypical gender difference. Considering the age range of the current samples, mothers in their 40s are less likely to be involved in video games than other age groups such as 20s and 30s.

We attribute this discrepancy between the statistics and our findings to two main factors: 1) a broader definition of co-play (e.g., brief playing casual games in mobile devices) possibly in the statistics, 2) and the changing role of mothers as controllers than active game participants in video game co-play. One study found that a mother who did not engage in co-play can feel excluded (Siyahhan & Gee, 2018), though it does not necessarily lead to isolation or exclusion. Many of our interviewees reported that mothers intentionally do not engage in co-play in order to have free time from parenting. In this sense, the mother's choice can be interpreted as proactive rather than as reactive. Consequently, mothers tend to mobilize restrictive measures more than fathers do (Nikken & Jansz, 2006). Nevertheless, our study also revealed that mothers' roles are not limited to restrictive mediation, but also incorporate active measures because a mother can also be listening ear and a co-player. By keenly listening and emotionally cheering, mothers are involved in family communications (families 3, 4 & 9).

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6. Conclusions

Overall, the major findings of this research align with those of previous studies about co-play on family bonding, intergenerational understanding, learning, and socioemotional well-being (Kang, 2023; Osmanovic & Pecchioni, 2016; Siyahhan & Gee, 2018; Toh & Lim, 2021). In conclusion, we suggest that co-play contributes to family communication, relationships, and learning, as it has become a normalized activity within family settings. As a final note, we would like to highlight a subtle tension between the uniqueness and ordinariness of co-play. While our interviewees repeatedly acknowledged that co-play as one of many family leisure activities, they also noted its uniqueness in terms of quantity, quality and diversity of forms and content in communication. One implication is a normalization of co-play, which enables a stronger and more interactive level of communication, compared with other family leisure routines, such as sports and board games (Musick et al., 2021). We found that it would be important to consider both possibilities and limitations of co-play so as to critically theorize co-play and to mobilize its practical implications rather than to cheerlead or demonize it.

There are some limitations to this research. We only focused on the families who co-play games. Accordingly, we could not capture the issues of the family who do not engage in gaming together which may cause problems in their family relations or within their social networks. The other limitations are resulted in the study samples. The online survey has a small sample size with convenience sampling which cannot be generalized to the population. In addition, the limited interview pool (e.g., two mothers, Koreans) leaves room for further inquiries on how socio-demographic elements (e.g., gender, education, race) and co-play are correlated. While our survey did not ask for parents' educational level, all the parents participating in the interview revealed that they have a bachelor's degree or a higher degree, which is higher than the average level of educational attainment in Korea. Thus, the relationships among educational attainment, co-play, and family communication deserve future study. The nature of symmetric, mutual or asymmetric mediation and mood surveillance provides an opportunity for further critical examination, as does the question of whether participatory learning is a child-directed or a parent-child negotiated process. Lastly, this research focused on the relationship between parents and preteen children who are more willing to interact with parents and mainly affected by them. However, as children get older, they may play and talk less with their parents (O'Neill, 2002). Therefore, to test the influence of co-play on family relations and communications, it is necessary to examine how the co-play frequency and patterns change over time and, and how the relationship between parent-child dyads changes through longitudinal research.

Considering the time span over which our interviewees reflected upon their experiences of game playing (less than 3–4 years at the best), our interview findings reveal relatively short-term effects of co-play. Although we found that co-play was driven by situational interests, it can also deepen conversations, enable families to surveil each other's emotions, and help them to negotiate and persuade effectively. As we found in the case of family role-switching, co-play provided opportunities in which parents and children can cooperate in constructing roles and functions, such as teaching, leading, supporting, scaffolding, and brokering within family.

Future research should expand the scope of the current study by investigating such variables as education, race, and age. As some parents shared anecdotes about playing video games with their own parents, a phenomenon acknowledged in a previous study (Musick et al., 2019), we consider it valuable to explore the intergenerational implications of co-play. Furthermore, examining how relational, emotional, and participatory experiences can lead to long-term outcomes would be worthwhile.

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