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## Teacher Versus Parent Perceptions of Children's Imaginative (Pretend) Play as an Avenue for Learning and the Implication of Digital Media Use

Christine Snyder  
Eastern Michigan University

*This study explores teacher and parent perceptions of children's imaginative (pretend) play as an avenue for learning and the implication of digital media use. In this study, 100 teachers and 130 parents (n = 230) of one- to five-year-olds completed a survey expressing their views on play, children's exposure to digital media, and observations of children's learning and development. Observations of children's learning and development focused specifically on creativity, executive function skills, problem solving, and social interactions. Findings indicate that generally parents and teachers value play, children have greater exposure to digital media at home (versus school), and observations of children's development vary between teachers and parents. Varying degrees of exposure to media did not produce significant differences in observations of children's development, however, the function or purpose of media use was not accounted for. This study represents a shared perspective among parents and teachers about the value of play but varying implementation of media use.*

*Keywords:* Early childhood, play, digital media, teachers, parents

For decades, there has been considerable debate about the rigor or methods of learning facilitation in early childhood programs. While there is significant research connecting play-based learning to brain development as an essential approach for developing children's desire and ability to engage in future learning experiences, families often request that teachers in early childhood programs provide more rigorous instruction in "academic" areas of learning. This debate centers on perceived "kindergarten readiness" that may overlook essential long-term educational and general life skills, often referred to as "soft skills." These skills include (but are not limited to) creativity, executive function skills, problem solving, and social awareness and interactions. Adult value of play impacts the frequency and support of play that foster learning in these areas (as well as exposure and support of academic skills such as math and writing). Exploring adult perceptions of children's imaginative play in connection to these areas will inform teacher facilitation of play as well as family education opportunities.

Additionally, this study takes into consideration the role that frequency of exposure to digital media (any type) can have on imaginative play. American Academy of Pediatrics guidance significantly limits screen time in the early years of development, and it is known that most families do not comply with those limits (Pappas, 2020). With the recent novel coronavirus pandemic, there has been a considerable increase of digital media use both as an avenue for learning but also to occupy or entertain children while childcare centers and schools have been closed or at limited capacity. The time spent using digital media devices could have a long-term impact on children's well-being and development. Therefore, gathering context on frequency and

type of media children are exposed to in home and school settings will inform how media exposure and adult attitudes can impact children's play and the aforementioned learning areas.

## PURPOSE

The purpose of this study is to understand teacher and parent perceptions of children's imaginative play in connection to specific learning areas and exposure to media. The specific learning areas emphasized in this study include problem solving skills, executive functioning skills, creativity, and social skills.

## LITERATURE REVIEW

Exploration of both play and digital media use among children under the age of five is necessary and complex. To understand the connection between children's play and use of digital media, it is important to explore the existing research regarding the dynamics of exposure, impact on children's development, and the attitudes of key adults in children's lives who make decisions about children's access to digital media and frequency of use. This review of literature specifically focuses on these three components.

### Impact of Digital Media Use and Exposure

In order to fully understand the impact of digital media use for children under five, careful consideration must be given to the content children are exposed to, potential for learning, and the habits formed from digital media use. Regarding content, one of the most common concerns is children's early exposure to violence or aggression. There are several studies addressing explicit violence and aggression as well as recent advances in parental controls, but fewer for implicit or indirect violence and aggression. In one study, the researchers found that indirect aggression was fairly common in animated children's films, and social exclusion was the most common type portrayed. (Coyne & Whitehead, 2008). Recognizing the limited research on indirect aggression, their focus allows us to carefully consider more subtle ways that children may be exposed to aggressive behaviors in digital media and replicate those behaviors in their personal interactions with peers. Specific concern lies both in the immediate and long-term impact of children's behavior and social skill development.

While digital media use may have limited positive impact on social skill development, there is a shared perspective of many that digital media can be supportive of children's learning. Particularly in the recent pandemic, it may be a substitute for in-person learning or supplemental when in-person learning is limited. In a comparison of views, teachers and parents expressed a high degree of agreement concerning the role of technology and digital media in developing child culture (Ihmeideh & Alkhawaldeh, 2017). Findings suggested that parents consider media to have some benefit to learning but less value than physical play (Elson, Matthews & Jirout, 2021). In contrast, teachers who frequently use digital technology are more reluctant to engage in social activities (Ihmeideh & Alkhawaldeh, 2017). While digital media use can have some positive impact on children's learning, it is also important to recognize the limitations regarding age and developmental appropriateness, adult support, and indirect impacts on development.

In addition to the limitations of developing appropriate social and emotional interactions, there is also a concern for the habits formed from regular exposure to various forms of media. Children

under the age of five are in a phase of rapid brain development, securing pathways for thinking, as well as responding and relating to others. Early experiences impact the way children think and behave, establishing habits and shaping creativity or open-mindedness. Limited research exists in this area connecting media exposure and brain development. However, we have some understanding of repeated exposure developing brain connections. In one study of children ranging from two to five years old, television advertising had a direct impact on brand recognition and brand symbolism (Watkins et al., 2016). This demonstrates that at an early age, children's repeated exposure to content in digital media does have a lasting impact including loyalty, familiarity, and imitation. As there is an increase in children's exposure to advertising and subsequent concerns about the impact this has on young children's thinking and wellbeing (Watkins et al., 2016) ongoing research will be necessary.

### Children's Play, Learning, and Development

Engagement in research about children's development provides greater understanding of how children play, learn, and grow. There are many relevant elements and angles to approach our understanding of young children as development is complex and integrated. Specifically, this review samples some of these factors by considering differences in gender, experiences in pretend play, social trends in play, and development in learning domains.

As gender stereotypes are often reinforced in social and learning settings, it is valuable to consider the relevance of this element of children's play. In same-gender peer play, boys more actively participated in social pretend play than did girls (Choi & Ohm, 2018). The more boys participated in pretend play with same-gender peers, the less likely they were to take part in groups involving girls (Choi & Ohm, 2018). For girls, the more they participated in pretend play with same-gender peers, the more they also participated in pretend play with opposite and mixed-gender peers (Choi & Ohm, 2018). The researchers concluded that a preference for same-gender peers gets weaker for girls in late early childhood whereas it increases for boys at this age (Choi & Ohm, 2018). Children showed a tendency to choose their own gender across all toys and media (Elson, Matthews & Jirout, 2021). Children's gender was not a factor in children's social, rough, and solitary-passive play behavior (Rentzou, 2014). As understanding and reinforcement of gender identity and expression continues to develop, it is necessary to continue exploring how this influences the attitudes of both children and adults and the impact it has on children's learning and play experiences.

Play style is another important element of children's learning and develop that is impacted by experiences. This can include but is not limited to factors affecting problem solving skills, engagement or willingness to interact with others, in both the short and long term. The authors in one study acknowledged the overlap in exposure to aggression in digital media, the formation of "scripts" that develop in early childhood for social interactions, and the importance of considering the long-term social factors (Coyne & Whitehead, 2008). Additionally, social and non-social play styles were affected by playfulness (Rentzou, 2014) or ease with which very young children engaged in play with others. The social skills developed in early childhood are important areas of growth and learning.

Understanding the role that play has in development should include a focus on specific types of play and areas of children's development and learning. Children naturally engage in a variety of types of play, each supporting development in different ways. In one study focusing specifically on pretend play, the researchers identified that imaginative play was related to divergent thinking

and creative storytelling (Fehr & Russ 2016). In another study, researchers extended this understanding by identifying that children's learning from pretend play is selective to the extent that it conflicts with existing knowledge. That is, children applied concepts from the pretend scenario to the questions about lorises but did not to cats when it conflicted with prior knowledge (pretend cats eat carrots, real cats do not) (Sutherland & Friedman, 2012). Further, children readily view content enacted in pretend scenarios to extend to reality even when explicitly given the chance to deny it (Sutherland & Friedman, 2012). Additionally, the more varied pretend play components were, the better self-regulation was (Vieillevoye & Nader-Grosbois, 2007). This notable benefit in the area of self-regulation occurred for both typically developing children and in children with intellectual disabilities (Vieillevoye & Nader-Grosbois, 2007). While self-regulation develops well into the teen years, or even early adulthood, the opportunity to support early development through play contributes to children's academic and life success.

### Parent and Teacher Perceptions

Children's growth and development is impacted by their experiences with the many adults in their lives, primarily parents and teachers. For this reason, it is beneficial to explore parent and teacher perspectives on the use of digital media, children's play, and the types of interactions with adults. Attitudes about play, digital media use and how adults support children in these experiences all contribute to children's exposure and development.

Findings in existing research suggest that parents consider digital media to have some benefit to learning (Elson, Matthews & Jirout, 2021; Ihmeideh & Alkhawaldeh, 2017) but less value than physical play (Elson, Matthews & Jirout, 2021). Parents' attitudes toward screens resulted in less time spent on media than physical play (Elson, Matthews & Jirout, 2021). Additionally, parents held gendered beliefs about children's preference for playing with spatial and non-spatial toys (Elson, Matthews & Jirout, 2021) resulting in gender as a factor in play experiences offered to children. Digital media use was higher as reported by parents as compared to teachers despite shared perspective about the value of play over digital media use.

In one study, all teachers emphasized that technology and digital media had helped young children improve their learning achievements (Ihmeideh & Alkhawaldeh, 2017). However, despite the learning benefits, teachers also reported that young children who use tablets, watch television, or use modern technologies are more reluctant to engage in social activities (Ihmeideh & Alkhawaldeh, 2017). Therefore, there is a notable need for educators to be trained well in order to be able to observe for and distinguish between different types of play and both social and anti-social behaviors (Rentzou, 2014). Additionally, this emphasizes the importance of careful decisions around the environment that could impact children's engagement and social interactions (Rentzou, 2014). Both environmental and social factors play a crucial role in children's learning and engagement.

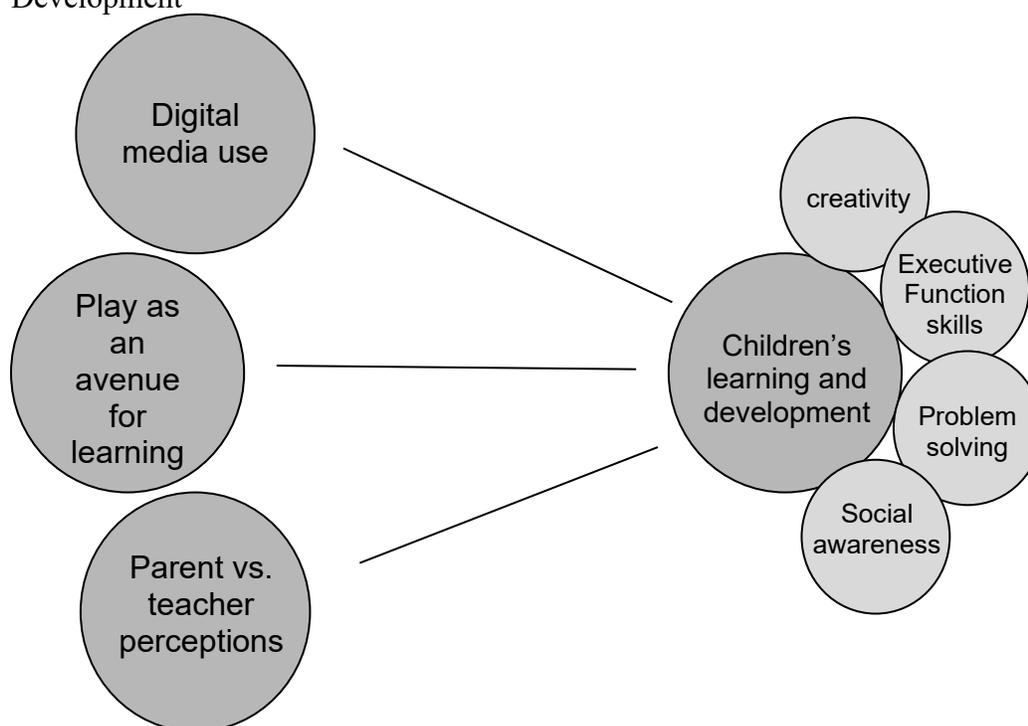
In recognition of limitations of studying children at play, it is worth noting that social interactions and relationships may have a significant impact on how children engage in play or "perform" during research studies. For example, in one study during which children engaged in a play skills intervention, the researchers specifically noted that children may not have been as affected by the intervention when they were interacting with a new person as they would have been playing with a familiar person (Fehr & Russ, 2016). Because the play was not facilitated by the person who completed the assessment there was no connection between the adult's understanding of a child's play or development and the strategies used by the interventionist. In a

real learning or therapy interaction, the adult's approach with a child would be specifically tailored to the child's needs and development. This would increase the likelihood that a child is receiving focused scaffolding in areas where needed rather than repetition in areas that have been mastered. This underscores the value of relationship in children's learning experiences.

### CONCEPTUAL FRAMEWORK

There is valuable research on the use of digital media, play as an avenue for learning, and differences in teacher and child perceptions about children's development. The framework for this study combines these three bodies of work to examine the correlation between each. Given that learning and development is integrated, ongoing, and supported by many adults in a child's life, it is necessary for the same complex approach to be taken to fully understand the context in which children learn.

Conceptual Framework: Digital Media Use, Play, Adult Perceptions and Children's Learning and Development



### QUESTIONS, HYPOTHESES, AND VARIABLES

#### Questions

Following the review of literature and development of the conceptual framework, the research sought to answer two key questions. First, what are the similarities and differences among teacher and parent perceptions of very young children's imaginative play as an avenue for learning and development in the areas of creativity, executive function skills, problem solving, and social awareness? Second, does exposure to digital media correlate with attitudes about play and very

young children's learning and development in the areas of creativity, executive function skills, problem solving, and social awareness?

### Hypotheses

H1a: Teachers place higher value on imaginative play [than parents] and therefore very young children are provided with more time in play experiences in childcare and less time interacting with digital media.

H1b: Parents place lower value on imaginative play [than teachers] and therefore very young children spend less time at home in imaginative play and more time interacting with digital media.

H1c: Teachers will observe greater frequency of observed skills [than parents] in the following areas: children's creativity, executive functioning skills, problem solving, and social awareness.

H2: The more exposure very young children have to digital media, the less observed demonstration of skills and ability in the following areas: children's creativity, executive functioning skills, problem solving, and social awareness

### Variables

In this study, the independent variable is the adult perceptions of imaginative play. There are two independent variables here as teachers and parents were surveyed separately. The dependent variables children's opportunities for imaginative play experiences and learning in the following areas: social awareness, executive functioning skills, problem solving, and creativity.

## DESIGN

This study entailed a nearly identical survey of two groups (parents and teachers) using a convenience sample. The survey had seven sections and 32 multiple-choice questions. The benefits of the survey method are not time-consuming, low risk for participants, and virtually no mortality because it is completed only once. The challenges of the survey method are that it does not allow for participants to elaborate on their experiences, without an incentive people may not want to participate, and it may be difficult to recruit a balanced number of participants in each group.

## SAMPLING PLAN AND SAMPLE

To be eligible to participate in this study, respondents had to be either parents or teachers of children aged one to five. Many participants were recruited from childcare centers but enrollment or employment in a childcare program was not a requirement. Recruitment included a convenience sample of teachers/caregivers by an email request to five multi-site childcare/preschool organizations, social media posts in teacher groups, and snowball sampling via encouragement of participants to share with other teachers with a target of 10-200 participants.

This method of distribution and recruiting allowed for easy participation and no-expense access to participants. However, this approach limited representation of demographics and posed a missed opportunity for a parallel study of parents and teachers of the same children.

Final participation included 100 teacher respondents and 130 parent respondents. Teachers were 98% female and 2% male; 4% Latino/a; 83% white; 8.5% black or African American; 2% Asian. Teachers' ages included 11% 16-25 years old, 26.4% 26-35 years old, 28.3% 36-45 years

old, 21.7% 46-55 years old, and 12.3% 56 years or older. Regarding teacher education, 7.5% had a high school diploma or GED, 17% had an associate's degree, 39.6% had a bachelor's degree, 35% had a master's degree. Teacher experience included 17.9% had 0-5 years, 25.5% 6-10 years, 10.4% 11-15 years, 13.2% 16-20 years, 14.2% 21-25 years, and 18.9% had 26 or more years of experience. Teacher roles included 2% nannies or home visitors, 4% home day care providers, 27.4% public school teachers, 51.9% childcare center teachers, and 17% indicated their role was "other" or not listed.

The parent group was 94.6% female, 3.8% male, and 1% non-binary or gender fluid. Four percent of parents were Latino/a, 92.2% white, 4.7% black or African American, and 1.6% Asian. Parent ages included 4.6% 16-25 years old, 47.7% 26-35 years old, 45.4% 36-45 years old, 1% 46-55 years old, and 1.5% were 56 years or older. Regarding parent education, 7.8% had a high school diploma or GED, 6.2% had an associate degree, 33.3% had a bachelor's degree, 40.3% had a master's degree and 12.4% had a doctoral degree. Of families who responded, 33.3% had 1 child, 41.1% had 2 children, and 25.6% had 3 or more children. Children's primary learning setting included 35.4% at home with a parent, other family member, or nanny; 5.4% home day care, 30.8% childcare center, 21.5% public school, and 6.9% "other."

## INSTRUMENTATION AND PROCEDURES

Participants completed an online survey with 32 (parents) or 31 (teachers) questions. This occurred one time only and took about 10 minutes to complete. Following completion of the survey, the subject's participation in the study was complete. The data collection tool used for this study gathered demographic information, time spent using digital media, attitudes about play, and questions regarding observations of learning. The levels of time using media were established based on the American Academy of Pediatrics guidelines for screen time for children 0-5 years old. Questions for the four sections were established based on established constructs, developmental checklists, and screenings for toddler and preschool-aged children. Specific questions were narrowed based on existing research studies and worded to be observable by parents and teachers.

Levels were established to allow for generalized observation by the participants that could be assigned values of 1-5 for scoring and analysis purposes. Section one collected demographic information, assigned numerical values for analysis purposes only, bearing no rank or value. Section two collected information by ranges of time. Section three collected information regarding attitudes about play through "not important," "somewhat important," and "never important" choices. Sections four-seven asked participants to indicate the frequency of observing a specific behavior of children: "never," "rarely," "sometimes," "often," or "always"; numerals 1 (low) through 5 (high) were assigned to the responses, accordingly.

The strength of this survey is the questions about media use because there are set, research-based metrics for digital media use among children that are supported and accepted by the field as recommended by the American Academy of Pediatrics. In contrast, the questions regarding observations of children's learning, while based on multiple theories or frameworks, do not carry the same concrete agreement in the early childhood education field. There are various iterations of how social skills, problems solving skills, creativity, and executive functioning skills can be observed and measured. Additionally, those construct questions may be limited by subject beliefs and interpretation of what's being asked.

Regarding consistency, participants are likely to respond consistently about their beliefs and since the survey is completed only once, it is unlikely participants will respond differently from beginning to end or change their beliefs while they are completed the survey. There could be great variations in the observation questions given that participants were not trained on objectively observing children and observations may vary based on when/where participants observe their children, how much they understand what they are observing, and how much time they spend observing their children.

Generalizability is limited to overlapping demographics and context in which children play and are observed. The adult value of play, opportunities for children to play, and observations of play may vary greatly depending on setting, experience, and cultural/community context. Therefore, results may be strongest at indicating perceptions and outcomes where those factors are similar.

Due to the format of the tool and distribution method described above, participation may also have been limited based on subject characteristics such as vocabulary comprehension, reading ability, English language fluency. The tool was written with simplified language to be accessible for a range of these factors. The tool is written in English but could be completed with support from a translator or a translation application.

Regarding instrumentation, the survey is digital so people without technology or who have limited ability using technology may not have had access to participate. Given the method of recruitment and distribution, this issue could not be controlled.

The location in which participants completed the survey or observed their children may also pose a threat to validity. While the survey is brief, distractions or interruptions may have impacted a participant's ability to read the questions for comprehension or carefully consider their responses. Additionally, where a participant took the survey may impact their responses related to their child's experience—actively observing, answering from memory, etc. (at home with their children, at work, while their child is playing, while their child is watching TV, etc.) Given the method of recruitment and distribution, this issue could not be controlled.

Subject or participant attitude may also pose a risk to validity as teachers or parents may have felt defensive about how their answers may be perceived by others, particularly the amount of TV or other use of digital media. This may have been particularly true if the participants were familiar with the researcher or the researcher's prior work on the value of play and limiting the use of digital media with young children. Given the method of recruitment and distribution, this issue could not be fully anticipated or controlled.

## DATA ANALYSIS PLAN

To analyze the data in connection to the research questions and hypotheses, the questions and variables were entered into a question and analysis chart indicating the question, independent variable, dependent variable, method of analysis, and the result. The software used to run the analyses was SPSS from IBM. Each question was broken down into five separate hypotheses to test for and examine the role and exposure components but also to understand the subscales for each of the four constructs: social awareness, creativity, problem solving, and executive functioning skills. A correlation analysis was used to determine the degree to which two factors were related. Mann-Whitney U tests were also used to determine any difference in a dependent variable for two independent groups. For both analyses, significance is considered 0.05 or less.

Table 1: Question and Analysis Chart Imaginative Play: Teachers Versus Parents

Question	Ind. Variable	Dep. Variable	Analysis	Result
Q1: Do teachers and parents perceive children's imaginative play as an avenue for learning and observe evidence of development in the areas of creativity, executive function skills, problem solving, and social awareness?	Role (teacher or parent) (Nominal; 1,2)	perceptions of children's imaginative play as an avenue for learning (Scale, 1-3)	Correlation	<b>.034*</b>
		Creativity (ordinal, 1-5)	Mann Whitney U	.050
		executive function skills (ordinal 1-5)	Mann Whitney U	<b>.013*</b>
		problem solving (ordinal 1-5)	Mann Whitney U	.067
		social awareness (ordinal, 1-5)	Mann Whitney U	<b>.016*</b>
Q2: Does exposure to digital media relate to attitudes about play and children's learning and development in the areas of creativity, executive function skills, problem solving, and social awareness?	Exposure to digital media (Scale, 1-3)	Attitudes about play (Scale; 1-3)	Correlation	.227
		Creativity (ordinal, 1-5)	Correlation	.245
		executive function skills (ordinal, 1-5)	Correlation	.512

		problem solving (ordinal, 1-5)	Correlation	.067
		social awareness (ordinal, 1-5)	Correlation	.462

\*Correlation is significant at the 0.05 level

## RESULTS

### Role and the Value of Play

To examine perceptions on the value of play between parents and teachers, the data was analyzed using a correlation analysis. One hundred thirty parents ( $n=130$ ) and 100 teachers ( $n=100$ ) had agreement that play is very important to help children learn ( $n=216$ ,  $SD=.499$ ) and agreement that play is somewhat important to help children learn ( $n=13$ ,  $SD=.376$ ). See table 3. Parents and teachers agree that play is important to children's learning ( $n=230$ ,  $p<.05$ ). See table 2. Parents were slightly more likely than teachers to indicate that play is only somewhat important, however the majority of both groups indicated play is very important. See table 4.

Table 2: Correlations: Role and Importance of Imaginative (Pretend) Play to Help Children Learn

		Are you a teacher or a parent?	How important is imaginative (pretend) play? [How important is imaginative (pretend play) to help your child learn?]
Are you a teacher or a parent?	Pearson Correlation	1	-.140
	Sig. (2-tailed)		<b>.034*</b>
	N	230	229
How important is imaginative (pretend) play? [How important is imaginative (pretend play) to help your child learn?]	Pearson Correlation	-.140	1
	Sig. (2-tailed)	<b>.034*</b>	
	N	229	229

\*Correlation is significant at the 0.05 level (2-tailed)

Table 3: Play is “Very Important” or “Somewhat Important”

How important is imaginative (pretend) play? [How important is imaginative (pretend play) to help your child learn?]	Mean	N	Std. Deviation
2	1.85	13	.376
3	1.55	216	.499
Total	1.56	229	.497

Notes: play is somewhat important (2) or very important (3)

Table 4: Crosstabulation of Teacher and Teacher Responses Regarding the Importance of Play

		2	3	Total
Are you a teacher or a parent?	1	2	98	100
	2	11	118	129
Total		13	216	229

Notes: teacher (1) or parent (2); play is somewhat important (2) or very important (3)

### Role and Observations of Learning

To analyze the role and observations of children’s learning in four content areas (problem solving, creativity, social awareness, and executive functioning skills), the data was analyzed using the Mann-Whitney U test. The null hypothesis for creativity was retained with a significance of .050, indicating that there was no significant difference of observation by teachers and parents of children’s creativity. The null hypothesis for executive functioning skills was rejected with a significance of .013 indicating a difference in observations by teachers and parents of children’s executive functioning skills in play. The null hypothesis for problem solving was retained with a significance level of .067 indicating no significant difference in observations by teachers and parents of children’s problem-solving skills in play. Finally, the null hypothesis for social awareness was rejected with a significance level of .016 indicating differences in observations by parents and teachers of children’s social awareness in play.

### Exposure to Digital Media

To analyze the results for role and children’s exposure to digital media use, an independent sample Mann Whitney U test was used to specifically focus on the time children spent watching TV or movies. There was a significant difference in time children spent watching TV or movies, therefore the null hypothesis is rejected.

## MEDIA EXPOSURE AND LEARNING

To analyze the impact of media exposure on learning in four areas (problem solving (PS), creativity, social awareness, and executive functioning skills (EF)), Pearson correlation tests were used to determine the degree to which factors were related. There was no significant correlation between media exposure and any of the areas (creativity,  $p = .227$ ; EF,  $p = .245$ ; PS,  $p = .512$ ; social awareness,  $p = .462$ ). See tables 5-8.

Table 5: Correlations: Media Exposure and Creativity

		Creativity	Media Exposure
Creativity	Pearson Correlation	1	.081
	Sig. (2-tailed)		.227
	N	227	226
Media Exposure	Pearson Correlation	.081	1
	Sig. (2-tailed)	.227	
	N	226	229

\*Correlation is significant at the 0.05 level (2-tailed)

Table 6: Correlations: Media Exposure and EF

		Media Exposure	EF
Media Exposure	Pearson Correlation	1	-.077
	Sig. (2-tailed)		.245
	N	229	226
EF	Pearson Correlation	-.077	1
	Sig. (2-tailed)	.245	
	N	229	230

\*Correlation is significant at the 0.05 level (2-tailed)

Table 7: Correlations: Media Exposure and PS

		Media Exposure	Problem Solving
Media Exposure	Pearson Correlation	1	-.044
	Sig. (2-tailed)		.512
	N	229	225
Problem Solving	Pearson Correlation	-.044	1
	Sig. (2-tailed)	.512	
	N	225	226

\*Correlation is significant at the 0.05 level (2-tailed)

Table 8: Correlations: Media Exposure and Social Skills

		Media Exposure	Social
Media Exposure	Pearson Correlation	1	.049
	Sig. (2-tailed)		.462
	N	229	224
Social	Pearson Correlation	.049	1
	Sig. (2-tailed)	.462	
	N	224	225

\*Correlation is significant at the 0.05 level (2-tailed)

## DISCUSSION

Understanding the perceptions of parents and teachers, learning in various content areas and the impact of exposure or use of digital media is complex. It is worth noting the similarities and differences in attitudes about play, exposure to digital media use, and specifically observed development in the areas of social skills and executive functioning skills (or as referenced in the literature, “self-regulation,” with a slightly different definition, a similar reference to the set of skills developing in the frontal lobe that help individuals manage behavior).

In this study, results mirrored the research outlined in the literature review reflecting that parents and teachers agree about the value of play and similarly identified potential benefits of digital media use. However, in the design of the instrument the definition or categorization of digital media was unclear. There were two questions about digital media use, one about TV and movies use and the other about tablets and computers use. While there are some exceptions (e.g., PBS), TV and movies are most often recreational for children under the age of five, tablets and computers have a variety of functions and may sometimes be used for educational purposes. Especially given the current context of the pandemic, many schools and programs have required children to spend more time on digital devices. This is likely less common with the focused age range of this study (one to five years old), but still potentially a relevant factor. This could skew the results regarding media use if children are required to be online for multiple hours each day as their primary learning environment. While some developmental outcomes could be directly connected to time on digital media, noting the difference of type and whether use is optional or required was smart feedback to consider for future related studies.

It was interesting to note that while parents and teachers shared views about play, the use and exposure of digital media was different. This conflicted with the literature that showed parents who valued physical play over digital media use reduced children's use of digital media (Elson, Matthews & Jirout, 2021). In this study, parent and teacher perceptions about play were similar but children had greater exposure to media in the care of their parents.

The parent and teacher observations regarding social skills and executive functioning skills aligned with the research on social skills decreasing following digital media use (Coyne & Whitehead, 2008; Ihmeideh & Alkhaldeh, 2017) and self-regulation skills increasing following time spent in play (Vieillevoye & Nader-Grosbois, 2007). Parents did not observe the same degree of social skills and executive functioning skills as did teachers which aligns with the research as parents indicated that children had greater exposure to digital media in their care than did teachers. While there are many factors that may relate to these outcomes, as noted below, it is worth continuing to study this area both in the short term and long term to ensure the best possible developmental outcomes for children.

## Limitations

This study had multiple limitations that impacted how the results can be understood and applied. Demographically, most participants were white women, which does not inherently indicate any significance in attitude, media use, or children's learning but does represent only a portion of the population. Regarding access to technology, this data was collected digitally and therefore only included people with explicit access to digital technology, potentially having an impact on the results. Additionally, the survey did not compare the number of digital devices or frequency of children's access to digital media. This would help demonstrate whether digital media use is intentional or limited by opportunity.

In addition to the digital method of distribution, the sample population was limited to people known/accessible to the researcher or one relationship or connection removed as this was a snowball sampling. It is possible responses were not reflective of the broader community of parents and educators for two reasons. First, given the limited degrees of separation between the researcher and the participants, there may already be shared philosophy about how to teach or care for children. Second, given the researcher's previously published work and role in the early childhood

community, it is possible people were more likely to respond in ways that the researcher would approve of and may have been embarrassed or hesitant to respond honestly or differently.

### Implications

This study has two key implications. First, more research is needed to understand the impact of digital media, specifically to understand the type or purpose of digital media use among children. Additionally, given the results from this study and the information in the literature review, it would be valuable to explore both the immediate/short-term impact as well as the long-term impact of digital media use. Considering the data on social skills and self-regulation, it would be worth exploring if there are differences in the hours or days following intense digital media use and/or if the differences are cumulative over time.

Second, replication of this study would be stronger with modifications. In this study, parents and teachers had no identifiable connection to one another. Therefore, the children being considered by the adults completing the survey were not the same; the teachers and parents were considering their observations of different children. It would be valuable to pair educators and parents of the same children. Given that the respondents were not trained in observing children's development, specifically the areas studied, the results would be more reliable and valid if researchers observed children. Finally, as previously mentioned, it would be valuable to observe children at various time frames after digital media use and after various lengths of time using digital media.

Digital media has a growing presence in our society for social, recreational, and educational purposes. Likewise, while early childhood programs broadly value play, the pressure to increase educational content continues. Ongoing study of implications will guide parents and educators in making informed, intentional, and beneficial decisions for children.

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