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The Use of Video Games by Kindergartners in a Family Child Care Setting

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In this interpretive study of children's social interactions in a family child care setting, children were seen to spend a significant portion of their time playing, watching others play, and distracted by video games. When children were focused on video games, their interactions with one another were disjointed, rushed, and ineffective. Because children's interactions are considered to be important learning opportunities, the prevalence of video games in child care settings and the implications of their use should be studied more closely.

KEY WORDS: video games; social development; kindergarten; family child care; child care.

VIDEO GAMES AND SOCIAL DEVELOPMENT

Traditionally, educators of young children have sought to promote social development by providing activities that encourage children to interact with one another and with adults. In all areas of development, children learn best through hands-on, real world interactions. In terms of social development, children need concrete experiences with peers and adults in order to learn (1) to differentiate themselves from others, (2) the social expectations that others hold, (3) how to resolve conflicts, and (4) how to participate as a member of a community (DeVries & Zan, 1994).

Katz (1999) recommends that any activity provided in a program for young children should be evaluated for its ability to promote children's learning in four areas: skills, knowledge, dispositions, and feelings. In terms of social development, activities should help children to acquire social skills, knowledge about what is expected of them socially, dispositions to be friendly, helpful, and cooperative, and feelings, such as competence, confidence, belonging, and security. Early childhood professionals should provide activities that are most likely to lead to such development.

Do video games promote or hinder these kinds of learning opportunities? The literature to date does not provide a clear answer to this question. First, very little research has been done on the use of video games by young children. Most studies of video game use focus on children between the ages of 8 and 16 (e.g. Keller, 1992; Panelas, 1983; Sherry, 2001; Yelland and Lloyd, 2001), either because young children don't play the types of games (e.g. violent games) studied (Sherry, 2001), or because the authors assume that young children don't have the cognitive skills needed to play video games (Keller, 1992).

Some of this literature on older children does consider how video games affect social development. Sherry (2001) is concerned that video games may encourage children to be more aggressive, and Provenzo (1992) believes that the solitary nature of the games isolates children and prevents them from experiencing the benefits of interaction with other children. Others, however, have seen positive effects on children's social skills. Keller (1992) asserts that video games may help withdrawn children to enter social play by giving them a structured situation in which to participate and a popular topic with which to initiate discussions. These contradictory views do not paint a clear picture of how video games might affect the social development of children.

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While the literature on video games has focused on older children, there is a fairly large body of writing on the effects of using computers (as opposed to video games) on the social development of children under the age of eight. NAEYC's position paper (1996) on technology, for example, compiles evidence that computers encourage children to work in groups, encourage children to seek help from peers, and encourage children to engage in high levels of spoken communication and cooperation. Natasi and Clements (1993) argue that elementary-age children learn perspective-taking and conflict resolution skills when using appropriate computer programs. Cordes and Miller (2000), on the other hand, argue that computers lead to isolation, less self-motivation, and detachment from the community, and that they unnecessarily expose children to highly commercialized products. The literature on young children and computers, then, does not portray a clear argument in favor of or against computer use. We know even less about how video game use affects young children.

This study contributes to the existing literature by (1) focusing on video game use by young children (kindergartners), (2) taking an in-depth look at the nature of children's interactions during video game play, and (3) studying video game usage within the context of the children's natural child care environment.

METHODS

This study took place in a family child care home in a middle class neighborhood. The caregiver, a dedicated early childhood professional, offered licensed, high-quality care. She was respectful, calm, and attentive to the children. Her home was clean, comfortable, and extremely well-stocked with games, art supplies, sports equipment, books, and other appropriate activities. The children were relaxed, friendly, and talkative.

The kindergartners, three boys and three girls, were from European–American, middle class families. The kindergartners arrived at the family day care home at 12:30 p.m., and were the only children in the home until 4:00 p.m. when the older school-age children arrived. I observed from 1:00 p.m. to 4:00 p.m., one time per week, over a period of 2 months.

The kindergartner's schedule included lunch, a "quiet time" when children were expected to do quiet activities, group activities initiated by the caregiver, time outside, and a free play period starting at about 3:00 p.m. During free play, the children could choose to play games on the Nintendo™ set. The Nintendo™ set and the 19-inch television screen on which the games were displayed occupied one corner of the room where children spent most of their time. Each child was allowed 18 minutes of video game time.

The primary source of data is the field notes that I made of my observations. I jotted notes as I observed, often scribbling children's conversations verbatim. I also used a tape recorder to capture dialogue. At home, I transcribed the tapes and expanded my field jottings into more detailed field notes. I used Nvivo© software to organize and code the transcripts and field notes.

CHILDREN'S USE OF VIDEO GAMES

My original intent in this study was to observe children's play in order to learn more about how they negotiated their social relationships with one another. I soon found, however, that the children spent only a limited amount of time playing with one another. Although the children had many opportunities to play with one another, they spent much of that potential play time playing video games or watching other children play video games. I found that the presence of video games in this setting monopolized children's attention in three ways: (1) children spent a great deal of time thinking about and talking about video games; (2) video games distracted the children so that they didn't fully engage in alternate activities; and (3) children very often chose to watch others play video games rather than engage in alternate activities.

Children Thought About and Talked About Video Games Frequently

The children seemed to think about the video games throughout the day. For example, I frequently observed instances in which the boys chose to examine video game instructions rather than reading the books that were available to them during the after-lunch quiet period. The children also repeatedly asked when it would be time to play the video games or who would get to play the games first. I was surprised at how much the video games occupied the thoughts of the children.

I was also surprised at how motivated the children were to play the games. They often willingly did things they didn't necessarily want to do in order to enhance their game time. For example, the children could earn extra minutes of video game play by finishing all their food at lunchtime. The following conversation shows that even a child who I knew to

be a picky eater was willing to eat disliked foods in order to earn those extra video game minutes.

> Researcher: What was for lunch?
> T: Something I didn't like (laughing).
> R: (laughing) What didn't you like at lunch?
> T: (laughs) I just didn't like, um, the grilled cheese, cheese sandwiches. [In other situations, T absolutely refused to eat grilled cheese sandwiches.]
> R: Oh, so how did you solve that problem?
> T: I just ate both of 'em' cause I wanted 20 minutes on (takes a breath)
> R: Because what?
> T: 'Cause I wanted 20 minutes on the Nintendo™. Cause you only you can only get up to 20 minutes if you eat all your food.
> R: What happens if you don't eat all your food?
> T: Then you only get...10 minutes.
> R: Who makes that rule?
> T: M [the caregiver].
> R: What do the other kids think about that rule?
> T: They think it's okay. (Tape transcript, 3/1/2000)

The children were also highly motivated to complete any activities that stood between them and playing video games. The caregiver did not allow the children to play video games until she said it was time. Often she wanted them to complete a project or go outside first. The children abided by this rule, but they did all they could to speed their way to game-playing time. For example, one day when the children had just completed a group activity, T spontaneously said, "I'm going outside so I can play Nintendo!" (Field notes, 4/6/2000) (She meant that that the sooner she went outside, the sooner she could play Nintendo.) This was one of many comments made by the children indicating that they were anxious to start playing video games.

Video Games Distracted the Children

Once a video game was turned on, it often distracted the children who were trying to complete other activities. Consider the following scene, in which a boy, M, and a girl, T were planning to play a game of pool (there was a child-sized version of a pool table in the middle of the room). T needed to finish cleaning up from a different activity, and M waited for her at the pool table. He took practice shots and seemed excited to start playing. Meanwhile, at the far end of the room, a second boy, S, had turned on a video game, and a third boy, A, was watching S play.

> T comes over to the pool table and asks M, "Want to play pool now, M?" M says, "Sure!" They start to play pool. When it is T's turn, M goes over to watch S playing Nintendo™. Then T comes over too. Now E (another girl) also sits down to watch the Nintendo™ game. All five (one child was absent) kids are watching the screen.
> T reminds M that it's his turn in the pool game. "It's your turn, M." M doesn't answer T. T continues to watch the Nintendo™ game.
> M goes over to the pool table and starts to take a turn. T calls out, "No, it's my turn!" So M comes back to watch the Nintendo™. T takes her turn, and comes back over to the Nintendo™. "It's your turn, M. It's your turn, M." M seems oblivious to T. He is watching the Nintendo™ game. But then he goes over to the pool table and takes his turn. T continues to watch the Nintendo™. (Field notes, 3/10/2000)

In this example, neither T nor M was able to put their full attention on the pool game because they both were distracted by S's video game. They lost track of what was going on and whose turn it was, and after only a few turns, they abandoned the pool game altogether.

I observed many other instances in which children were distracted from their activities because someone was playing a video game. Consider the following situation in which T and E (both girls) tried to play a board game. In this scene, T and E were sitting near the television set, and T had her back to the screen. A was playing a video game, and M and S were watching his game.

> E says to T, "Let's do this (pulling over a board game)."
> E starts setting up the game, but T watches the Nintendo™ game.
> T notices what E is doing and she says, "Want me to help?" She turns away from the Nintendo™ to help set up the board game.
> T checks in with the Nintendo™, but she does help set up the game too. She is clearly monitoring both activities pretty closely because she comments on what's happening in the Nintendo™ game. (Field notes, 4/13/2000).

As the board game continued, T was able to pay attention to it, but in-between her turns she watched the video game. Putting her attention on the video games between turns had the effect of stopping any interactions she might have had with E. Instead, the girls took their turns separately and hardly talked to one another.

In both of these examples (and in other instances like them), the children were unable to interact continuously with one another while a video game was being played. During the pool game, T and M didn't watch each other's turns or talk about the game. During the board game, E and T were virtually silent, with T's attention absorbed by the video game.

The children were so distracted by the video games that they did not engage in the kinds of give-and-take interactions in their own activities that I would have expected to see.

Watching Others Play Video Games

In the previous examples, video games grabbed the attention of children who were trying to engage in non-video game activities. In addition to this phenomenon, every one of my observations contains notes on some children who never even attempted to engage in other activities because they preferred to watch video games being played instead. In most cases, when one child started to play a video game, others would come over to the television set, sit down, and watch the screen until it was their turn to play or the video game was turned off. In all the times that I observed children playing video games, there was only one instance of a child playing with no one watching her game. Usually, at least two children watched the game, and on several occasions all of the children watched the game. Thus, the video games not only distracted children from their activities, it also prevented them from beginning other activities in the first place.

The caregiver's rule was that each child was allowed to play video games for 18 minutes per day. I never saw children play less than 18 minutes, and sometimes they played longer if they had "earned" extra minutes. Each child usually played every day. There were six kindergartners. If a child watched every child's game and played a game, he or she was sitting in front of video games for close to two hours. Moreover, additional games of Nintendo™ were played by the older children when they came home from school at 4:00 p.m. One of the older children reported to me that the kindergartners did watch those games as well, especially the boys (personal conversation, 4/13/2000).

The fact that children watched each other play video games meant that they were spending far more time on video games than adults might have guessed. When a parent asked the caregiver how much time the children spent playing video games, she responded that each child was allowed to play for 18 minutes. While this is accurate, it does not nearly reflect the amount of time that children were engaged by the video games.

DISCUSSION

I have presented evidence that the children in this setting spent a great deal of time playing, watching, and thinking about video games. Should we be concerned with this intense focus on video games? Are the kinds of interactions children have with one another when they play video games the kinds of interactions that help them to develop social skills?

Piaget proposed that children are egocentric—that is, that they have difficulty seeing the world from the point of view of others. Initially, children do not realize that others have their own points of view, but with time they start to recognize that other people have their own outlooks, and that those outlooks can differ substantially. The ability to recognize different points of view is considered to be an important precursor to healthy social and moral relationships (Rest, 1983). Development of the ability to recognize that other people have different points of view is a direct result of children's interactions with others (DeVries & Zan, 1994; Shantz, 1983).

Not only should children be aware of differences in viewpoint, but they must also be able to solve the problems that arise from those differences. Many teachers and parents of young children agree that children need to learn problem-solving skills. They also agree that children learn those skills by experiencing conflict and negotiating solutions (usually with adult guidance) with one another. Spivack and Shure (in Shantz, 1983) proposed that social problem-solving requires children to be able (1) to think of various solutions to a problem, (2) to know how others are likely to respond to a proposed solution, and (3) to use problem solving techniques. Practicing these problem-solving steps in real-life situations usually requires considerable time and attention.

In a typical child care program or kindergarten classroom, children come into regular contact with their peers. Most programs provide children with opportunities to engage in dramatic play with one another, play sports and games, do projects, and talk with one another while eating or performing other tasks. These activities are thought to provide children with opportunities to hear other points of view and to solve problems. Do video games offer children the same kinds of opportunities?

The children I observed usually played one-player games—only one child manipulated a joystick and determined the moves of a single character. The other children watched. All of the children's attention was focused on the television screen. They rarely looked at one another.

Very little was said during the video games, except for occasional remarks such as "Cool!" or "Got him!" The exceptions to these short remarks

were discussions about how a player should proceed or which strategy would be best. These discussions, however, were very different from the types of discussions that arise in other activities.

Consider the following example in which the children have different points of view about how to capture a key in a video game. The key was important to them because it enabled the player to proceed to a new level, and all the children were interested in seeing the new levels. A was playing the game, and T and M were watching him.

> T knows where the key is. A asks her where it is. T wants to get it herself—to take the controller from A, but A doesn't want that. T then tries to help by pointing on the television to an area that A should go to. A starts moving his car around. T says, "I know a faster way to get it." A ignores T, but M is now intrigued by the idea that there might be a faster way to get the key. He keeps asking A to let T show him the faster way. A wants to do it by himself. A eventually gets the key. (Field notes, 03/23/2000)

This example shows a situation with the potential for children to work together. A initially wanted help, and T was willing to offer help. T, however, was unable to articulate her strategy, and A ignored her requests to show him what she meant. He also ignored M's comments. It is likely that A ignored T and M because he didn't have time to engage them in discussion. The action in the game was going too fast, and in order to avoid having his character killed, he had to stay focused on the game. There wasn't time for verbal explanations or careful consideration. With the action going so fast, A was able to ignore the opinions and suggestions of the other two until the situation simply resolved itself.

Compare the children's interactions during this video game with the types of interactions we typically expect to see when children are engaged in other activities. Activities such as dramatic play require children to interact more directly with one another. They may have to agree upon which game to play, agree upon roles, and agree upon rules. If they don't agree, the play is likely to stop. Children can go at a slower and more leisurely pace, which gives them the opportunity to discuss differences of opinion as they arise. Finally, children usually play face-to-face, and use facial and physical gestures to ascertain what the other person is feeling or thinking.

Video games did not provide these children with those kinds of experiences. The rules were internal to each game—they could not be negotiated because the computer determined what happened next. When disagreements did arise, the action in the games progressed so quickly that there was no time for the children to express opinions or consider the ideas of others. And if they did try to talk with one another, the child who held the joystick could effectively ignore what the other children said. Finally, the children's attention remained fixed on the video game screen so that they did not look at each other when they interacted.

It is important to note that it was not only the children who chose to play video games who lost opportunities to develop social skills. The children who were distracted from their other activities or who chose to watch others play video games did not do activities which might have provided them with more meaningful social experiences.

One might ask, however, whether the experiences of these children were typical. We don't think of video games as being readily available in most child care centers; maybe these children were in an unusual situation. Very few studies have looked at the amount of time young children spend on video games. An exception is a report by the Henry J. Kaiser Family Foundation (Rideout, Vandewater, & Wartella, 2003) which looks at the use of electronic media in homes by children under the age of six. While this report found that young children use video games less than they do other forms of electronic media, it did find that 30% of children under six have played a video game and 10% have their own video game consoles in their bedrooms. In addition, video game usage seems to increase as children get older—50% of children ages four to six have played video games.

The Kaiser Family Foundation study focused on the use of electronic media by children in their own homes. No study has measured how many child care programs offer video games as a play choice. We simply don't know. It may be that video games are available more often than we think, especially in school-age programs. The family child care home I visited was run by a very well-credentialed provider who worked hard to provide a wide variety of activities for the children in her care. If these children still managed to spend a large portion of their time playing video games, it seems likely to me that children are spending time on video games in other home day care settings as well. In addition, programs housed in school buildings or commercial establishments might also allow access to video games on computers, "arcade-style" games, and hand-held game players. Indeed, when Ceglowski (2003) interviewed children about the activities they had available to them in child

care, she found that children often reported playing video games and watching television in child care centers, SACC programs, licensed family child care homes, and "kith and kin" care.

CONCLUSION

Children in child care settings have wonderful opportunities to interact with other children and adults and to receive adult guidance in how to negotiate those interactions. The opportunities for social development are tremendous. Yet, when children are allowed to play video games, their interactions do not necessarily lead to the development of important social skills because the nature of the games preclude meaningful interactions and because the games distract all of the children from more beneficial activities. As professionals concerned with children's development, we must be aware of the costs of video game play and seek to provide them with better choices.

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