

Play Interactions between Children with Autism and their Siblings in a European American and a Vietnamese American Family

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We examined play interactions between siblings when one child has autism in a Vietnamese American and a European American family. Analysis was based on video recorded free play sessions with each set of siblings at their home. Interviews with the typically developing sibling and parents also provided supplemental data to aid our knowledge about their play behavior. This study describes the role of the typically developing sibling in play and the types of play engaged in by siblings. Findings indicate that the two sets of siblings differed in their play behavior. Specifically, significant differences were noted in the role of the typically developing sibling in play, and the types of play engaged in by the siblings. The perceptions of the typically developing siblings and parents regarding autism also differed across families, significantly affecting their play behavior. Implications for research are described.

Keywords : autism, family, play, siblings

Play supports individual growth by making a child an active agent in his environment, supporting imagination and creativity, and encouraging peer interaction (Zeavin, 1997). Play has a central role in adaptability and early education, as well as fostering motor, cognitive, social, and emotional development (Buchanan & Cooney, 2000; Caruso, 1988; Vygotsky, 1978).

Play and Children with Special Needs

Playgroups help children with disabilities engage in social interaction. Appl, Fahl-Gooler, and McCollum (1997) found that playgroups are used to socialize and provide age-appropriate

activities. In a study of 12 families of children with disabilities involved in family-centered service centers, interviews over a 9-year span showed that a benefit of play was heightened opportunities for children with special needs to interact with typically developing children.

Teaching play strategies is essential for developing social interaction skills. In a case study of a 3-year-old boy with autism, Francke and Geist (2003) discovered that teaching play strategies immensely helped broaden his social play behavior in addition to his cognitive level of play. A baseline observation was followed by observations during structured teaching, free choice playtime, and group activities over the school year. Teaching play strategies helped the boy engage in higher levels of constructive and symbolic play, as well as become more comfortable with social experiences. The

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researchers noted increases in types of toys played with, opportunities to play with peers, social interactions, and generalizability of skills.

The Role of Family Members in Play

Limited research has been conducted looking at the roles of specific family members in play, especially when one child has special needs (El-Ghoroury & Romanczyk, 1999; Hughes, 1998; Stoneman, 2005). One of the main roles of the caregiver is to create an appropriate environment for their child. Zeavin (1997) asserts that “the caregiver *is* the environment” (p.76). The physical (e.g., toys, play space) and interpersonal (e.g., choice of playmates) environments must be tailored to suit each individual child. Especially for children with special needs (e.g., who have a desire for familiarity or difficulty with social situations), this creation of a suitable environment is critical.

El-Ghoroury and Romanczyk (1999) examined the roles of family members in play interactions. Nine families with children with autism ranging from 3 to 7 years and siblings ranging from 5 to 8 years were observed in dyadic family interactions at home. They found that parents exhibited more play behaviors than siblings towards children with autism. Parents often engaged in “setting behaviors” believed to elicit positive responses from children (as described in Tremblay et al., 1981), such as play organization, questions, and cooperative play. However, despite this engaged role of the parents, the children with autism initiated more play actions with their siblings, suggesting that parents need to pace play interactions to allow children with autism to initiate their own play. Siblings are both peers and family members, and can provide the child with necessary social stimulation. This study shows that children with autism want to interact with their siblings, but siblings may be overlooked in their contributions.

Researchers have suggested that play helps connect and bond siblings (Knott, Lewis & Williams, 1995; Reagon, Higbee, & Endicott, 2006). Through play, children learn how to resolve conflicts, such as determining the

appropriate roles of each child (e.g., the older sibling as a leader) (Rubin, 1980). Play also helps siblings explore intimacy and trust issues (Parker & Gottman, 1989). Ultimately, play enhances the sibling relationship by encouraging communication and shared understandings between siblings (Howes, Unger, & Matheson, 1992).

Knott, Lewis, and Williams (1995) confirmed that children with autism engage in frequent interactions with their siblings, and that the typically developing sibling often directs play. They showed that children with autism successfully reciprocate siblings’ initiations into play. Through play, siblings can teach skills and socialize a child (Taylor, Levin, & Jasper, 1999). Reagon, Higbee, and Endicott (2006) described how siblings of children with autism act as models and mentors in play. They studied a 4-year-old boy with autism along with his typically developing 6-year-old brother. In this case study, the older brother acted out four pretend play video models with a peer. Following this, the child and his sibling tried to replicate the model. Results suggest that siblings of children with autism can perform video models and participate in pretend play with their sibling. Ultimately, this study confirms that children with autism engage in and benefit from play interactions with their siblings.

Sibling Relationships in Autism

Given that autism is a complex, lifelong communicative disorder, siblings of children with autism often endure substantial stress and anxiety (Happe, 1995; Wolfberg, 1999). They face unique challenges that do not always exist for children who have siblings with other special needs (e.g., Knott, Lewis, & Williams, 1995; Orsmond & Seltzer, 2007a). Additionally, they lack adequate understanding of the disability. Children’s reasoning may mature with age, but this is delayed in respect to understanding disability norms. Knowledge about autism across ages 5 to 17 years remains within the boundaries of preoperational thought (Glasberg, 2000). Parents also tend to overestimate their

children's understanding of autism.

Positive and negative effects coexist in sibling relationships when one child has special needs (see Orsmond & Seltzer, 2007b, for a review of literature). Positive effects include high family cohesion and less sibling rivalry (Kaminsky & Dewey, 2001; Meyer & Vadasy, 1994; Orsmond & Seltzer, 2000). Children are often well-adjusted and even thrive from having a sibling with a disability (Taunt & Hastings, 2002). Siblings often assume the role of mentors and caregivers (Cuskelly & Gunn, 1993; Stoneman, 2005). They empathize with their siblings and offer helpful behaviors, often due to the feeling that the sibling with autism will grow up to live a life different from their own (Benderix & Sivberg, 2007). Negative effects include feeling neglected and overburdened by responsibility (e.g., Breslau, 1982; McHale, Sloan, & Simeonsson, 1986; Tew & Lawrence, 1973), as well as being exposed to disturbing behavior, such as tantrums and aggression (Benderix & Sivberg, 2007; Ross & Cuskelly, 2006).

The Current Study

While it is widely accepted that play significantly contributes to child development, research has neglected the role of siblings of children with autism in play. The present study aims to understand play behavior between siblings when one child has autism by observing them in a natural play setting, and taking into account typically developing siblings' and parents' perceptions of autism. Our purpose in this study was not to generalize our findings, but to gain an in-depth understanding of the play behavior between siblings when one child has autism.

Method

This study is part of a larger qualitative study designed to examine the beliefs and experiences of disability in young children who have siblings with autism (Braun, 2008). The study used multiple methods, including interviews with

parents, observations of family interactions, and video recorded observations of siblings during play in the home. The use of multiple methods helped ensure the trustworthiness of the data. The primary source of data presented in this paper is video recorded play interactions between the siblings in each family. However, interviews with parents and a *draw-and-tell* session with the typically developing siblings also contributed to better understanding the siblings' behavior.

Participants

Two (one Vietnamese American and one European American) families from a large city in the Pacific Northwest of the United States participated in this study. Each family had a son with autism and an older son who was typically developing. Parents and their two children participated in the study. Criteria for the selection of families were (a) parents having two children, (2) older child being typically developing and younger child having a diagnosis of autism, and (3) children in the age range of 2-8 years. Table 1 provides a summary of the parents' background and Table 2 provides a summary of the children.

For the sibling dyads, parental expectations and knowledge of autism were supportive factors for the typically developing children. These factors informed children's own behaviors and acceptance of behaviors from their younger brothers. To provide context for the play behaviors discussed in this paper, it is important to understand the beliefs of parents on having a family member with autism.

Within the first few months of receiving the diagnosis that their younger son Joey (age 4) had autism, the Smith parents informed their older son John (age 7) about his brother's disability. Joey scored low on all his developmental tests, demonstrating limited speech and a preference for sameness amongst other traits. The Smith parents primarily attributed Joey's autism to genetic causes, and they both demonstrated a sound knowledge of autism. John was told that Joey would always have autism, and that his

Table 1
Family Information

Family	Ethnicity	Native language	No. of years in the US	Religion	Education (Mother & Father)	Occupation (Mother & Father)	Age (Mother & Father)	Primary caregiver	Number of children	Language spoken at home	SES
Smith	European American	English	Born in US	Catholic	M: Associate's Degree F: Bachelor's Degree	M: Sales F: Operations Management	M: 38 years F: 42 years	Both parents	2	English	Middle
Nguyen	Vietnamese American	Vietnamese	Mother: 9 years Father: 18 years	Catholic	M: Bachelor's Degree F: Bachelor's Degree (both from Vietnam)	M: Unemployed F: Building Maintenance	M: 43 years F: 48 years	Mother	2	Vietnamese (primary language), English	Low

Table 2
Child Information

Family name	Name, age, & gender of typically developing child	Name, age, and gender of child with autism	Nature of autism	Related services for child with autism
Smith	John 7 years old Male	Joey 4 years old Male	Moderate autism; initially poor verbal skills with gradual improvement; desires consistency; pays close attention to detail; self-stimulating behavior like arm-waving	Speech, physical, occupational, and ABA therapy, IEP
Nguyen	Trevor 7 years old Male	Tyler 5 years old Male	Moderate to severe autism; limited verbal and social skills; tantrums; preference for sameness; self-stimulating behavior	IEP, sporadic therapies at school

brain processed information differently. He was also educated on what behaviors Joey might display, and how to make appropriate accommodations. The Smith parents helped John see his brother as not being too different from other children by making life as normal as possible and by downplaying Joey's disability in family conversations. The Smith parents had equal expectations for both boys. Though they believed that sharing information on autism would help John act like a mentor, they did not force this role onto him. The Smith parents believed that John was the most influential person in his brother's life, and thus they wanted John to be proud of Joey's accomplishments. Mr. and Mrs. Smith believed that "disability was not a barrier" to their son's future and that "Joey will be capable of anything as long as he puts his mind to it."

On the other hand, the Nguyen parents believed that they had a child, Tyler (age 5), with a disability because they were "paying the debt" for the sins of their ancestors. They hid Tyler's autism from his older brother Trevor (age 7) for two years because they were afraid that Trevor would react negatively or unintentionally reveal his brother's condition to the rest of the community, causing embarrassment and shame. It was only when Trevor overheard a conversation between his mother and Tyler's teacher that the parents found it necessary to tell him about his brother's disability. The Nguyen parents did not have adequate knowledge about autism, and they only spent limited time with their children as a result of household duties and work responsibilities. In addition, the Nguyen parents did not have equal expectations for their boys concerning appropriate behavior. For Trevor, they expected him to be a "good role model capable of displaying altruism in a sibling relationship." He was expected to hand over any new toy that he received to his brother and wait patiently for it while his brother played with it first. Mrs. Nguyen explained that since Tyler had a disability, she was more lenient with him and that he almost always got what he wanted and indulged in unruly tantrums.

Procedure

Video recorded observations of siblings at play are the primary data source for this paper. However, *draw-and-tell* interviews with the typically developing children on their perceptions of their siblings with autism (Sage & Jegatheesan, 2010a) and interviews with the parents on their views about having a child with a disability, socialization practices, and their roles/expectations for their children (Sage & Jegatheesan, 2010b) provided a deeper understanding of the play behavior in the sibling dyads. In the next section we provide a description of the video recorded observations of play.

Video recorded observations of siblings at play. The two brothers in each family were observed in a 30-minute free play session at their home. Our goal was to examine their relationship in a natural activity and to understand how the siblings communicated and interacted with each other. This portion of the broader study (Braun, 2008) is the focus of the present paper. The mothers chose the toys. The toys were those that were liked by the children and were familiar in their everyday lives. For the Vietnamese American family, children played with trains on tracks, medical doctor toys, and a puzzle. For the European American family, children played with cars on tracks, a rocking horse, a Cariboo board game, a bubble maker, bouncy balls, and Playmobiles. Children were given simple instructions by the researcher at the start of the play session. They were told to play how they would on any other day, and pretend that the researcher was not present. Children with autism often have difficulty handling changes in their environment and schedule, so every attempt was made to minimize disruptions and changes in the environment. Sessions were videotaped, with permission of the parents and children. Parents were invited to be present at the play session. The play sessions were unstructured and the boys were allowed to take the lead on what they wanted to play with. This allowed us to document the kinds of play they

indulged in, the duration of each play type, and the persons who initiated the change in play type or end the play.

Ethical Issues

Formal ethics approval was obtained from the Institutional Review Board at the University of Washington. Consent from parents and assent from the children were attained from both families. Parents and children were informed of their rights (e.g., freedom to stop drawing, withdraw from the study at any time). Parents provided consent for their children with autism to participate in the study. A pseudonym was assigned to each participant to protect his or her identity. A Vietnamese interpreter was used to provide language assistance to the Vietnamese American family. The role of the interpreter was to provide interpretation and translation services during the interviews and to transcribe and translate the interviews.

Analysis

Data were analyzed in a continual and ongoing process as generated in the form of transcripts of video recorded observations. There were no preconceived categories. The two authors reviewed and coded the transcriptions. Transcriptions of the children's verbal input and observations were compared with the drawings. These were essential to understanding the meanings children wished to convey. The authors then met with each other repeatedly to review emerging themes and issues (Bogdan & Biklen, 1982). In this manner, they used the constant comparative method of sorting data. They independently expanded, developed, or merged categories during the process of interpreting and analyzing the data (Glaser & Strauss, 1967). Credibility was addressed through triangulation and peer debriefing with the two families.

Transcription and coding of play. Play episodes were coded in detail. To describe the different types of play witnessed between the

brothers, we focused on length of time spent playing in a certain way. We had 30.5 minutes of recorded footage for the Smith brothers and 27 minutes for the Nguyen brothers. Play episodes were coded via their beginning and end times. For instance, a parallel play episode starting at 9:13 and ending at 9:52 would have been considered 40 seconds of parallel play. We could then add up all instances of parallel play to get a sense of how long the brothers spent in parallel play in total during the play session.

A play episode began when either of the siblings touched a toy, or one another, verbally interacted with the other, or tried to grab the attention of the other (e.g., waving hands). A play episode ended when the siblings stopped playing (e.g., attention diverted to something else, or the sibling physically removed himself) and when the theme of the play changed (e.g., from mutual play to solitary play). A guided play episode occurred when a parent intervened or participated in the sibling play.

Coding also included the roles of siblings, such as when they initiated play or transitioned to a new type of play. We also made note of when parents intervened in the play session.

Results

Typically Developing Child's Perspective and Attitude towards Brother with Autism

John understood autism well. When asked during the *draw-and-tell* interview what he thought about autism and his brother, he drew an image of Joey waving his arms and acted out his brother's self-stimulating waving behavior. He added that Joey was special because of autism and that autism led to his brother's unusual behaviors. These behaviors, he explained, were out of his brother's control. John appeared to be familiar with the accommodations Joey needed on a regular basis and communicated well with his brother through a combination of words and gestures. John's images of himself and his brother depicted a warm relationship. John believed he understood Joey better than anyone

else. The example below illustrates his confidence:

Interviewer: Do you play with your brother sometimes?

John: Yeah

Interviewer: How do you and Joey talk to each other? Like, do you talk with words? Do you do gestures more?

John: I know more than my mom and dad about what Joey is saying because I am mostly around him.

Mother: You know more than we do?

John: Yeah, what he's saying. You don't know what this means: "uhhhhhh." He is saying, "Oooo, Mom, Ooo Dad."

Mother: Oh, okay

Trevor was not well informed about autism and its implications for Tyler. The only things he said about his brother during his interview were that his brother had tantrums, was usually happy, had very poor listening skills, and had a short attention span. During the *draw-and-tell* interview, Trevor drew images of Tyler without ears to express that his brother did not listen to him. He also illustrated his emotions about his brother through his drawings, by drawing an image of himself with angry eyes and a big smile. When asked about this image, Trevor explained that he smiles only because his mothers expects him to do so when he is with his younger brother, however, he is often angry with Tyler because he breaks his toys.

Both John and Trevor faced the challenge of having a younger brother with autism. However, John appeared to have a better grasp of autism and what it meant for his younger brother when compared to Trevor. In addition, and perhaps partially a result of John's superior understanding of autism, the relationship between John and Joey was warmer than the relationship between Trevor and Tyler. Child perceptions regarding autism have been documented in Sage and Jegatheesan (2010a).

Play at Home and Parents' Role in Play

Mrs. Smith reported that her boys play together at least 3-4 times a day, typically engaging in cooperative social interactions with a fair amount of talking, sharing, and guiding by John. According to her verbal report, the boys are never hesitant to play together and often go looking for each other in the morning just to see what the other person is doing. John and Joey indulge in a lot of rough and tumble play, such as wrestling. John explained that, although he is older than Joey, his brother wrestles him to the floor. "He kills me," he said laughing. John added that, since baseball was a special game for him, he liked sharing it with his brother as well. The boys also played with cars, helicopters, trains, games, and looked at books together.

The Smith parents encouraged their sons to play together if they wanted to. Mrs. Smith said, "The boys are always within ear shot, they are allowed outside (fenced backyard) or in the basement to play alone. We don't feel like we need to supervise; they are really good about how they play together." During the recorded play session, Mrs. Smith mostly sat back and watched. However, she did intervene to provide useful suggestions about what to show Joey on approximately 6 occasions. For instance, when John was racing cars with Joey, the mom asked John, "Does he (Joey) know how to do the buttons?" Similarly, the mother made about 20 verbal comments and suggestions directly to Joey, trying to redirect his attention to the activity at-hand and facilitate the smooth play between the brothers. For instance, when Joey became disengaged from the game Cariboo, she said to him, "Go back in here. Go back and play Cariboo with John." She also encouraged good behavior in Joey. For instance, when the boys were playing with bouncy balls and Joey had more balls than John, she asked, "Joey, are you sharing? You need to share with John."

Conversely, Mrs. Nguyen reported that her boys usually played separately, and that their play schedule was very structured. The children watched television together for an hour after school and then they were allowed to play with

each other for an hour before dinnertime. Usually this play was solitary, as the boys had different hobbies. Trevor liked cars and reading books, but these activities bored Tyler since he could not sit still for long. The Nguyen family lived in a small apartment with limited space for play activities and restrictions on noise level. The boys usually just played in the living room with a limited number of toys, including train tracks and puzzles.

Mrs. Nguyen reported that her household chores kept her too busy to engage in much play with her sons. If she did have a free moment, she tried to give them ideas on how to play better. She also set rules to encourage cooperation. She believed that letting her boys play alone fostered independence. During our recorded play session, Mrs. Nguyen did not engage in any play or make any comments for about the first 10 minutes. During the rest of the time, she sat with Tyler as they put together an ABC puzzle. There was very minimal talking. She never tried to engage her sons in joint play, and instead solely focused on helping Tyler put together the puzzle.

According to parental report, both sets of boys engaged in play in the home. Both mothers also reported that they let the boys play on their own with minimal supervision. However, the Smith boys were most often found playing together while the Nguyen boys preferred to engage in separate play activities. The Smith brothers also had more freedom regarding when to play, while the Nguyen brothers had a set schedule. Furthermore, Mrs. Smith reported that her children engaged in a lot of active play (e.g., rough and tumble) while Mrs. Nguyen reported more passive play (e.g., sitting in the living room).

During the actual video recorded sessions, it was noted that Mrs. Smith tried to give numerous helpful suggestions and comments to facilitate her children's play. Conversely, Mrs. Nguyen never engaged with Trevor at all, but did sit to help Tyler with a puzzle. In sum, Mrs. Smith encouraged joint play between her sons, while Mrs. Nguyen made no such efforts. It appears that the nature of sibling interactions is influenced by how parents facilitate and support

their play.

Nature of Sibling Dyad Play Interactions and Togetherness

During our observation of the Smith siblings at play, both children appeared to be in a happy mood - active and excited about the play activities. For the majority of the time (21 out of 30 minutes), John and Joey played cooperatively together. We noted that the brothers indulged in several play types together: cooperative play, constructive play, and functional play. One example of a typical case of cooperative social interaction occurred while the boys played with bouncing balls:

John says to Joey, "Joey, let's go bounce them (the balls) over here!" He provides a reminder a few seconds later, and Joey heads over. John says "over here, bounce them over here," as he moves across the living room. John exclaims: "One, two, three, bounce!" A few seconds later, one ball goes down the stairs and John heads to retrieve it. Joey follows him. They continue bouncing the balls together.

Constructive or object play involves using materials to build or create something. This type of play occurred for a total of 6 minutes and 17 seconds during the play session.

Joey and John drive their Playmobile cars down the hallway by crawling on the floor. Joey continues to play with his car while John moves to the stairway ledge just above Joey. Joey's wheel falls off, and he fixes it himself, exclaiming, "There we go!" John exclaims, "Joey, look! I am going to fall!" His car is on the ledge, and this gets Joey's attention. Both boys are playing with their cars on the stairway ledge. John says, "This came off," pointing to a string that fell off his car. He works to fix his car and wind it up. The boys are playing side by side, making sound effects of driving cars together.

To illustrate functional play, we can look further into the bouncing balls example where repetitive physical motion is apparent. This sort of play elapsed for 10 minutes and 30 seconds.

John says to Joey: "Joey, look at all the balls! Look at what they are going to do!" Joey is watching and copies his brother. Both brothers giggle and laugh while running and chasing after their balls in the living room. John says to Joey, "Hey, look it! Here comes all of them! Here comes all of them!" John bounces all the balls while Joey watches. They again chase after the balls to collect them all.

The brothers also engaged in several types of separate play (9 out of 30 minutes): parallel play, solitary constructive play, and on-looking behavior. In parallel play, children sit side by side without any interaction while working on the same activity simultaneously. The brothers engaged in this type of play for 1 minute.

Joey decides he wants to bounce the balls on the table in the kitchen instead of in the living room with his brother. John briefly looks at what Joey is doing at the table, without saying anything. John bounces the balls on the floor behind Joey. Joey is sitting at the table, analyzing the small details of the balls. John makes a quick attempt to engage his brother, saying "Joey, let's go play over here." Joey says no, so John backs off and continues to play with the balls by himself. Joey plays with the balls at the table. John rejoins Joey at the table for 5 seconds without saying anything, and then continues to bounce the balls by himself while Joey continues to play with the balls at the table.

Solitary constructive play was evident as John and Joey played with materials to build or make something, but this time separately. This lasted for a total of 2 minutes and 43 seconds.

Both boys are around a bucket of toys

and they choose different types of toys to play with. John is singing a song to himself, and playing with the toys by himself. He is not looking at his brother. John says to Joey, "Hey, you are knocking down the horses!" John fixes them, and then puts some toys up on a ledge. He is not really interacting with his brother. Joey, to himself, says "I want a horse!" John is occupied with another toy and does not offer help. Joey looks around, reaches for a toy in the bucket, decides to build a fence, and points to the researcher and declares this fact. John moves to his bed to play in the water that is his blue comforter. Joey remains on the other side of the room, playing with a different group of toys.

Lastly, for 5 minutes, Joey engaged in on-looking behavior where he watched John engage in a different activity.

Joey moves from the floor onto a rocking horse and watches while his brother plays with the cars. He is still very engaged, watching every move of his brother and making noises and squeals when the cars go down the track. John declares "Joey's car was third!" Their mother asks: "Did he (Joey) get to pick his car or did you pick it for him?" John says, "He picked it!" Joey is still intently watching his brother at the track. Joey watches the cars go down the track and jump off. John says to Joey "Let's see if we can put them across the bridge" and makes eye contact with him. Joey is still watching his brother, squealing when the cars jump.

Contrary to the Smith family, both Trevor and Tyler seemed rather glum. The boys did not engage with each other at all. Trevor sat by himself with the tracks most of the time, and did not say anything. He had no expression on his face. He did not seem very interested in his activity or brother. Tyler, though switching activities on several occasions, also did not smile

or giggle. He played by himself or with his mother. He often paused for self-stimulating behavior, where he would just stare at nothing in particular while touching himself. The children were together very little in play – only briefly engaging in a moment of joint constructive play (1 out of 27 minutes).

The interpreter asked Trevor to join Tyler at one point during the play session, and Trevor silently moved over to his brother. Trevor silently joined Tyler at his puzzle that he was putting together with his mother. He tried to take over the activity by taking the piece that Tyler was holding in his hand. This made Tyler unhappy, and Tyler tried to get the piece back from his brother. Tyler started making noises and fell on top of Trevor, which knocked both brothers over. Tyler did not want Trevor to join in on the puzzle with him, and was becoming visibly upset. Trevor then moved away and returned to playing with the train tracks.

For the most part, they engaged in separate play behaviors (26 out of 27 minutes). For instance, at the start of the play session, for approximately 7 consecutive minutes, Trevor played with the train tracks on the living room floor while Tyler played with the medical doctor toys on the couch. This is an example of solitary constructive play, as the boys played with toys and used materials to build other toys, but did not engage each other at all. For an additional 15 ½ minutes, Trevor continued to play with the train tracks while Tyler played a puzzle with his mother. Thus, they were engaged in solitary constructive play for a total of 22 ½ minutes. Both brothers ignored each other entirely, attending to their own separate activities. They were on opposite sides of the living room and made no eye contact or recognition of the other's presence.

For 3 ½ minutes, the boys engaged in parallel play. They were playing side by side, working on the same activity simultaneously, but without any interaction whatsoever. They played with

the train tracks. Physically, they were on opposite ends of the train tracks. Tyler pushed a trolley on the track. Trevor was connecting pieces and also pushing trolleys at the other end. They made no contact and had no verbal interactions. Tyler became bored with the tracks about a minute after starting to play, and temporarily engaged in self-stimulating behavior for about 30 seconds before returning to the tracks. After his return, he seemed disinterested and bored by the tracks. He pushed the trolley back and forth, but often stared off into space.

In summary, both sets of brothers were observed in a free play session in their homes. Based on observation, their moods were distinctly different; the Smith brothers appeared happy while the Nguyen brothers appeared glum. Both sets of brothers engaged in some play together and some play separately. However, the Smith brothers engaged in joint play for approximately 69% of the time while the Nguyen brothers engaged in joint play for only 4% of the time. In other words, the Smith brothers spent a lot more time playing cooperatively together while the Nguyen brothers spent the vast majority of their time engaged in separate activities in the same room.

Sibling Roles during Play

Our free play observation revealed that John took on 3 distinct roles during play with his brother. We observed that John often initiated new activities for him and his brother. Often he would use a mental state term (e.g. “want”) when presenting his brother with a new activity, such as Playmobiles. The following is one illustrative example.

John puts a bucket full of toys in front of Joey, establishes eye contact, and says “Want to play Playmobile?” Joey watches intently. John gets the toys out of the bucket for both him and Joey. John says to Joey, “Hey, look it!” John smiles and flies a plane over to Joey while making sound effects. He touches the plane lightly to Joey's cheek. John actively tries to

maintain contact and interest by repeating, "Joey, look it! The shark is swimming in the water!" as he makes a shark swim on his blue comforter. Joey watches his brother move the toys around. Joey comments on having a road, and John exclaims, "I am going to play up on the water first!" Joey responds with "I want to play on the road please." John agrees, saying "I need a car, I got a snowmobile!" while grabbing this car out of the toy bucket. The boys then drive the cars down the hallway.

John also transitioned to new activities whenever his brother seemed to lose interest. He would notice disinterest and attempt to reestablish contact with his brother and regain his interest. For instance,

John and Joey start to play Cariboo. Joey seems to be losing interest in this activity, and is hoarding the game pieces. John asks if he can have a turn. Their mother also tells Joey, "John's turn. Give him the key." Joey gets up and starts to leave the room. The mother says, "Go back in here. Go back and play Cariboo with John." John gets up and locates a bubble gun to gain Joey's attention. This establishes interest and contact as Joey reenters the room when he sees what John has. John pushes the button on the bubble gun, and bubbles explode out. He says to Joey, "Hey, look at that big bubble!" and points to a bubble on the ground. Joey hops around excitedly, then turns away for a moment before jumping on another bubble. John repeats himself with a new bubble, "Hey, look at that one!" Joey steps on the bubbles repeatedly, and seems excited to watch the bubbles. He imitates the sound of the bubble gun.

Furthermore, John acted as a teacher by modeling activities and teaching skills to Joey. He did this on three distinct occasions during the play session. Once, his teaching was parent-

directed. His mother directed John to show Joey how to push a button on the tracks. On two occasions, his teaching was spontaneous. He modeled how to fix a wheel on a car and showed Joey how to bounce balls.

The boys drive their Playmobile cars down the hallway together. Joey exclaims "Oh no!" as the wheel on his car falls off, "I broke it!" John sees his brother's distress and says, "Want me to do it?" He fixes the wheel for Joey as Joey watches. John makes a turn back to his room, but Joey says "no!", so John rejoins Joey in driving the cars down the hallway. John moves his car to the stairway ledge as Joey pushes his car on the floor. Joey's wheel then falls off, and he looks momentarily distraught. But he fixes it himself this time, having seen his brother just model this action. He exclaims, "There we go!" when he fixes it, and looks happy once again.

When comparing how John interacted with his brother, Trevor did not demonstrate any specific roles during the play session. He never initiated an activity, taught his brother something, or transitioned to a new activity. The brothers played separately for the vast majority of the time.

In summary, both sets of brothers played in the same room for approximately 30 minutes. In this time frame, Trevor engaged in no specific roles. In contrast, John initiated new activities, transitioned to new activities when his brother seemed to lose interest, and acted as a teacher to his brother. Thus, it appears that John took on 3 separate roles during the free play session while Trevor did not perform any equivalent actions.

Discussion

This study examined the play behavior of siblings when one child had autism, and how this varied in a Vietnamese American family versus a European American family in the United States. The typical play behavior of the children

was very different between the two families, as reported by their parents. The Smith brothers played very actively together and engaged in cooperative social interactions on a regular basis. In contrast, the Nguyen brothers usually engaged in passive, solitary play and had distinctly different hobbies. The Smith brothers spontaneously engaged in play every day while the Nguyen brothers had a set schedule for play. Buchanan and Cooney (2000) and Zeavin (1997) stressed the importance of the caregiver creating a suitable environment for play and consistently helping to stimulate initiative in their children with disabilities. The Smith mother followed these considerations, facilitating play by checking on her boys and offering suggestions. In contrast, the Nguyen mother only supervised play on a limited basis, which usually led to her children attending to separate activities rather than playing cooperatively together. She had minimal involvement in stimulating play.

In our play sessions with the siblings, we discovered that the two sets of brothers engaged in distinctly different types of play. The Smith brothers engaged in cooperative social interaction for the majority of their play session, while the Nguyen brothers engaged in solitary play for the majority of their play session. John initiated activities, transitioned to new activities, and acted as a teacher or mentor on numerous occasions. Trevor did not perform any equivalent behaviors.

Striking differences emerged between the two families in terms of the nature of the sibling relationship as well as the communication and interaction style between siblings. In the European American family, the typically developing sibling had excellent communication skills with his brother. He claimed to understand his brother's gestures and sounds better than his parents, and openly talked to his brother during play activities. He asked many questions to engage his brother and raise his interest. As for interaction style, the European American sibling showed an impressive amount of patience for his brother with autism, and played with him on a regular basis for numerous hours on any given day. During play activities, he also successfully

transitioned to new activities to maintain his brother's interest, and he successfully taught his brother new skills. This is in line with the findings of Reagon, Higbee, and Endicott (2006), suggesting that siblings are effective teachers for children with autism.

In the Vietnamese American family, the typically developing sibling had poor communication skills with his brother. He reported that his brother rarely listened to him, and that this was very frustrating. As a result, the brothers kept verbal exchanges to a minimum. For interaction style, the Vietnamese American sibling showed frustration and impatience towards his brother with autism, and did not spontaneously engage in play activities with him on a regular basis. Their mother often forced them into play activities together. Francke and Geist (2003) pointed out that children with autism have difficulty expressing their needs, resist change, prefer solitary play, throw tantrums, and are unresponsive to verbal cues during play. The Vietnamese American child with autism seemed to be in line with this assessment.

The families' socioeconomic status and the severity of the child's disability also seemed to play an important role. The play environment was clearly affected by socioeconomic status. The Smith family lived in a large home with many toys. Their children could play inside or outside, and in a variety of rooms and open spaces. The lower-class Vietnamese American family had fewer resources at their disposal. They had a small apartment with a limited number of toys. Their children could not play actively, given apartment guidelines on noise level. The number of services each child received also reflected the families' socioeconomic status – Joey received more services (and on a more consistent basis) than Tyler. Tyler also had a more severe form of autism than Joey, leading to a higher incidence of self-stimulatory behavior and tantrums. This could have potentially made Tyler a more difficult child to interact with on a regular basis. Future research should draw a larger sample from each end of the socioeconomic spectrum in

order to more specifically determine how socioeconomic status may affect how parents socialize their children when one child has autism and how socioeconomic status may directly affect play behaviors.

The descriptions presented in this paper illustrate the play interactions of two typically developing siblings of children with autism from two different backgrounds. We acknowledge that the small number of case studies and observations in this study limits the generalizability of our findings. However, we would like to note that both sets of parents confirmed that the behavior displayed during the play observations was typical behavior of their children (Braun, 2008; Sage & Jegatheesan, 2010a). Thus, though we only had a single play observation with each family, this play was reported as representative of their typical play interactions.

Implications and Recommendations for Future Research

Our sample size was limited to two families, and thus we cannot generalize our findings to other members of their respective cultures. However, we hope that our findings will provide a starting point for future studies to examine sibling relationships and play interactions involving children with autism in other cultural communities. Such multicultural understanding is critical to successful practices in supporting siblings and their parents in culturally different families.

It is possible that culture played a role in determining how these two families viewed and treated autism. Research has shown that cultural and religious beliefs play an important role in how family members interpret and understand disability (e.g., Jegatheesan, 2005; Jegatheesan, Miller, & Fowler, 2010; Shaked, 2005; Skinner, Correa, Skinner, & Bailey, 2001). Such beliefs inform parents on issues such as childrearing and socialization practices, as well as expectations and roles of other family members such as siblings.

Disability is often perceived as a stigma

among Asians, and we witnessed a similar perception in the Nguyen family (Chan, 1986; Chan & Lee, 2004; Jegatheesan, 2009). In Asian American families, explanations of the causes of disability are predominantly due to individual (e.g., failure of mother) and cultural (e.g., retribution for past sins) attributions (Jegatheesan, Miller, & Fowler, 2010; Jegatheesan, 2005). Negative perceptions of disability result in parents feeling shame and guilt, which often prompts these parents to remain private about their child's diagnosis and be hesitant in seeking assistance (Chan & Lee, 2004; Groce & Zola, 1993; Jegatheesan, 2009; Uba, 1994). These beliefs affect how much information parents share with siblings. It is possible that such cultural beliefs resulted in Mrs. Nguyen hiding Tyler's autism from Trevor (Sage & Jegatheesan, 2010b). In contrast, positive interpretations of disability, as we saw in the Smith family, may contribute to parents being more proactive and ensuring both the inclusion of the child in the community and socializing typically developing children to be supportive and caring of their siblings with a disability (Jegatheesan, Miller, & Fowler, 2010; Jegatheesan & Witz, in press).

Given that culture may influence socialization, it also possible the culture influences play behaviors. To illustrate this with some of our data, John viewed his brother as a happy person, and his parents were very open about autism with John. They viewed disability as possibility and actively sought services for Joey. The Smith parents also believed in self-development of their older son, which is consistent with the more individualistic perspective of American culture (Markus & Kitayama, 1991). In contrast, Trevor viewed his brother as a frustrating person, and the Nguyen parents felt shame about autism and tried to hide it from him, in line with Asian culture (Jegatheesan, 2009). This lack of understanding could increase Trevor's frustration and lower his compassion, thus leading him to not engage in as much play with Tyler. Though we cannot draw such conclusions here given our limited sample, we encourage future research to take a cross-cultural

perspective on these issues with a larger number of families in order to parse out the contributions of culture on how parents socialize their typically developing children about autism and how this may affect their play behaviors.

The current study has implications for understanding the impact siblings can have on children with autism. By acting as a teacher and mentor during play, as seen in our study and in past research (Reagon, Higbee & Endicott, 1996; Francke & Geist, 1993), siblings can help socialize their brother or sister with a developmental disability as well as teach them new skills. Siblings are a vital asset to children with autism, and must not be overlooked.

Furthermore, this research stresses the importance of including play as a functional goal in special education. Play should be an important component of every child's IEP (Individualized Education Plan). Educating parents on the importance of play in their child's development is needed. Parents should also be provided with knowledge on how to structure play activities and provide play opportunities for their children when one child has autism.

Acknowledgement: This study is partially supported by the Advocates for the Rights of Citizens with Developmental Disabilities (ARC) of Washington. We would like to thank Loan Nguyen for her assistance in the data collection with the Vietnamese family in this study. We are grateful to the two families who participated in this research.

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Received October 20, 2011

Revision Received November 16, 2011

Accepted December 14, 2011