

*EFFECTS OF VIDEO MODELING ON SOCIAL INITIATIONS BY CHILDREN WITH AUTISM*

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We examined the effects of a video modeling intervention on social initiation and play behaviors with 3 children with autism using a multiple baseline across subjects design. Each child watched a videotape showing a typically developing peer, and the experimenter engaged in a simple social interactive play using one toy. For all children, social initiation and reciprocal play skills were enhanced, and these effects were maintained at 1- and 3-month follow-up periods.

DESCRIPTORS: autism, children, video modeling, social interaction, reciprocal play

Children with autism make or accept fewer social initiations and spend more time playing alone compared to their peers (Koegel, Koegel, Frea, & Fredeen, 2001; Shabani et al., 2002). Video modeling is a promising method for promoting social skills in these children (LeBlanc et al., 2003; Sherer et al., 2001). Video modeling has been defined as the occurrence of a behavior by an observer that is similar to the behavior shown by a model on a videotape. In this study we examined the effects of video modeling on social initiation and reciprocal play.

## METHOD

*Participants and Settings*

Three children (Daniel, Christopher, and Andrew) who were between 7 and 9 years old and who had been diagnosed with autism participated in the study. Their scores

on the Childhood Autism Rating Scale (Schopler, Reichler, & Renner, 2002) were in the mild to moderate range (i.e., total scores of 31, 32, and 35.5, respectively). The children were exposed to a video model in one room, and their social initiations and play were measured in another room.

*Stimulus Materials and Response Measurements*

Four toys (a ball, a trampoline, tambourines, and a game called Hungry Frogs®) and a videotape were used in the study. All participants were familiar with the toys, thus making guidance and instructions unnecessary. In the videotape, a typically developing peer (the model) entered a room with the experimenter. The experimenter sat on a chair placed opposite all of the toys, and the model approached the experimenter, took him by the hand saying, "Let's play," and played with him for about 15 s on the toy (the trampoline) that was closest to his chair.

*Social initiation* was defined as the child approaching the experimenter, emitting a vocal (e.g., "Let's play") or gestural (e.g., taking him by the hands) behavior, and leading him towards a toy. *Reciprocal play* was defined as the child engaged in play with the experimenter using any toy in the manner for which it was intended. Latency to social initiation and the total duration of reciprocal

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play were recorded. Interobserver agreement was collected during over 55% of all sessions and averaged 98% (range, 94% to 100%); it was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100%.

#### *Procedure*

A multiple baseline across subjects design was used. Across all trials and all conditions, the relative location of the toys was exactly the same. In all conditions, each session was terminated when either a child had completed playing (i.e., by saying "stop" or "finish" or walking away from the toy) or after a maximum of 5 min, whichever occurred first.

*Baseline (Condition A).* During baseline, both the child and the experimenter entered the experimental setting in which all toys had already been placed on the floor in the same manner as shown in the video. However, there was at least one session in which each of the toys had been placed near the experimenter's seat.

*Video modeling (Conditions B1, B2, C, and D).* In these conditions, each child viewed the 35-s videotape once and then was taken into the room containing the toys. If a social initiation response occurred within the first 25 s in three consecutive sessions during each condition, the child was transferred to the next condition.

Condition B1 was the same as Condition A except for the prior viewing of the video. If a social initiation did not occur in three consecutive sessions, Condition B2 was introduced. In Condition B2, the sequence of behaviors shown on the tape was simplified. The simplified version showed the peer modeling the social initiation response, but the section showing the model playing with the experimenter was erased.

The purpose of Condition C was to determine whether the participants would emit

a social initiation response to instigate reciprocal play using a different toy when the one depicted in the videotape (i.e., the trampoline) was no longer available. At the start of the session, Condition C was identical to Condition B1 for all participants. After 5 min or the participant finished playing with the trampoline (whichever came first), the trampoline and two other toys were removed and the session was extended for an additional 5 min with only the ball present.

Follow-up tests were conducted 1 and 3 months after the final measurements had been taken. Prior to these tests there was no video presentation, and the procedures were similar to the previous conditions. The setting during follow-up sessions was the same as the setting used during the baseline sessions.

## RESULTS AND DISCUSSION

Latency to social initiation and mean time engaged in reciprocal play are shown in Figure 1. During baseline there were no instances of social initiation. Only 1 child (Daniel) engaged in social initiation and play (for about 1 min) during Condition B1 (first session). Thereafter, the time engaged in reciprocal play decreased across sessions. When Condition B2 was introduced for the other children (i.e., the simplified video presentation), latencies resembled those shown for Daniel. The time engaged in reciprocal play varied from 45 s to 100 s for Christopher and from 50 s to 88 s for Andrew. In Condition C for Daniel, latencies to social initiation were fairly similar to those in Condition B1, and time engaged in reciprocal play with each toy increased. For Christopher and Andrew, however, during the first session, social initiation was directed only at play with the modeled toy. Thereafter, their latencies were similar to those for Daniel, although there was a marked increase in duration of reciprocal play.

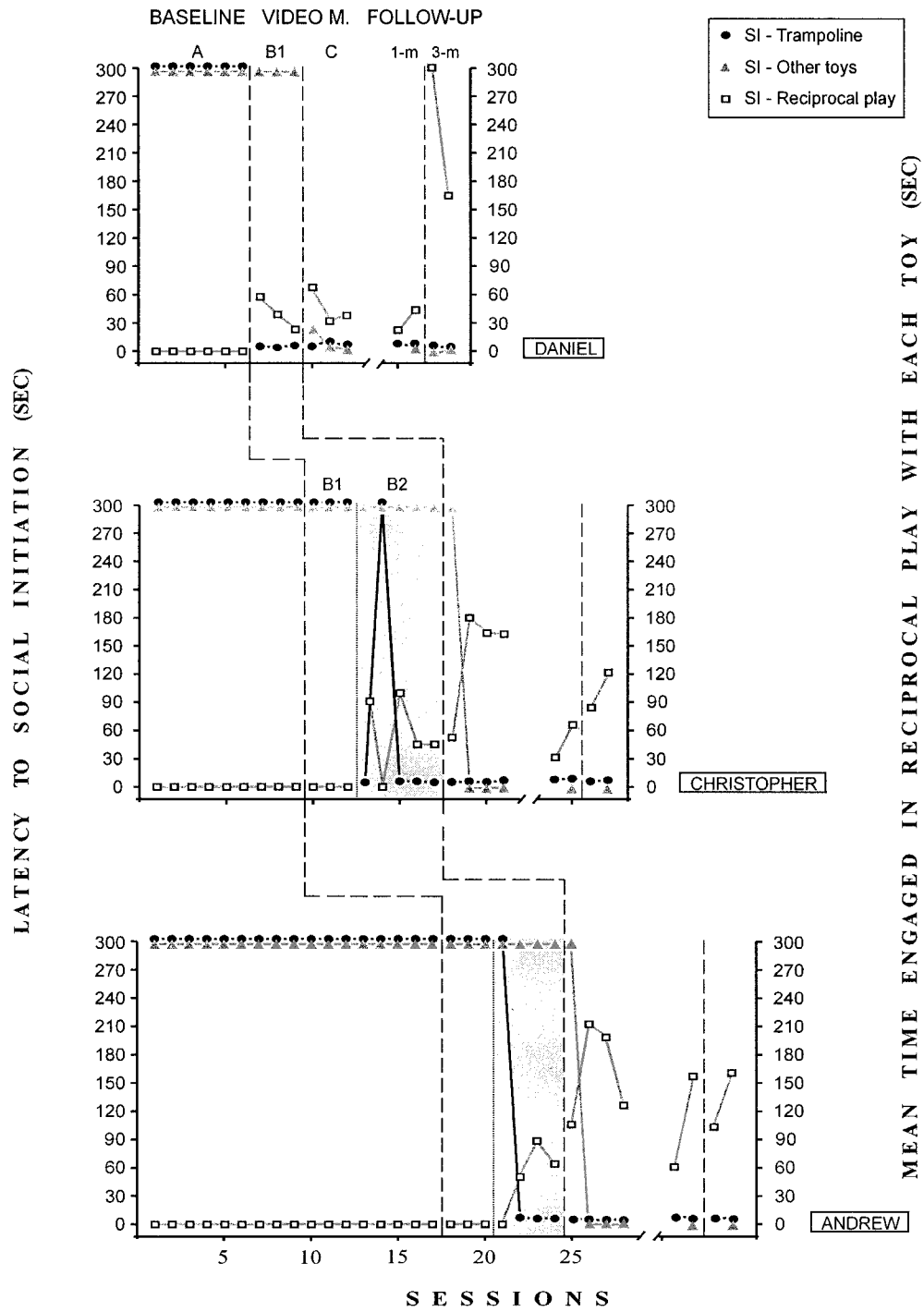


Figure 1. The latency to social initiation and the mean time engaged in reciprocal play with each toy across conditions for all children. Shaded areas (Condition B2) indicate those occasions when a simplified video presentation was used.

For all the children, the latencies to social initiation were relatively low across the follow-up assessments. Time engaged in reciprocal play with each toy was similar to previous conditions, although there was an increase during the 3-month follow-up compared to the 1-month follow-up.

This study adds to the growing literature on the use of video modeling with children with autism. Across all children, a video presentation enhanced social initiation and reciprocal play skills, which were maintained at 1- and 3-month follow-ups. It might be argued, however, that the presentation or removal of toys during Condition C may have contributed to the results. One way to test this would be to have an initial baseline condition in which all toys are present. Next, all but one of the toys could be removed to see if this produces social initiation and reciprocal play. Logically this is a probability. However, in reality such a finding is highly unlikely. An alternative way of dealing with this argument is to suggest that once social initiation has been developed in a child's repertoire, removal of all but one of the toys functions as an establishing operation. In fact, the video modeling procedures in this study could be explained within the paradigm of establishing operations. That is, during the baseline sessions, children did not use the stimuli (i.e., toys) in interactive play

with the experimenter. However, that behavior occurred after video modeling had been introduced. Consequently, it seems that the video display altered the reinforcing effectiveness of the toys, and thus the occurrence of the behaviors of social initiation and reciprocal play remained in the children's repertoire throughout the subsequent conditions.

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