# EVALUATING THE EFFECTIVENESS OF COMMERCIALLY MADE VIDEO MODELS FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDER

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Applied Behavior Analysis – Master of Arts

2023

**ABSTRACT**

Individuals with autism spectrum disorder (ASD) often require direct teaching to learn social and communication skills. Research supports video modeling as an effective intervention to teach various skills to individuals with ASD. Recently, commercially made video models have become available to teachers and caregivers as a subscription service, although research supporting their effectiveness is sparse. The current study examined the effectiveness of commercially made video models with three individuals with ASD at an Early Intensive Behavior Intervention center. The dependent measure of this study was the percentage of social skills each participant independently imitated from a video model. A multiple-probe-across-participants design was used. Of the three participants, only one demonstrated accurate imitation of the social skill modeled. The other two participants never engaged in the skill.

*Keywords:* video modeling, autism spectrum disorder

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# INTRODUCTION

## Autism Spectrum Disorder

Approximately one in 44 children have been diagnosed with autism spectrum disorder, or ASD (Maenner et al, 2021). According to the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; DSM–5; American Psychiatric Association, 2017), children must have “persistent deficits in social communication and social interactions” to receive an ASD diagnosis. Some research suggests that deficits in social skills may be the most critical element that defines ASD (Stella, Mundy & Tuchman, 1999). These deficits in social skills tend to persist into adulthood without intervention (Howlin et al., 2000). Due to social skills deficits, children with ASD may require direct intervention to teach skills in these domains (Matson et al., 2007).

One strategy to address deficits in social skills in children with ASD is through behavioral interventions, often referred to as applied behavior analysis (ABA). ABA is defined as a science based off the principles of behavior, used to improve socially significant behaviors (Cooper et al., 2020). Recent reviews have shown ABA to be effective in improving socially significant behaviors of individuals with ASD (Granpeesheh et al., 2009), and more specifically, effective in improving social skills (Makrygianni et al., 2018). A comparison study by Grindle et al. (2012) compared outcomes of 11 children with ASD who received ABA in a school setting and 18 children with ASD who did not receive ABA, and found the children with ASD who received ABA made significantly more gains in social skill domains on a standardized test than those who did not receive ABA.

**Video Modeling**

Modeling and observational learning are concepts that have been researched since the 1960s and were advanced by Bandura during his Bobo doll experiment, in which he demonstrated that children would imitate an adult model acting aggressively towards a doll (Bandura, Ross & Ross, 1961). Observational learning is defined as observing another individual's behavior and its consequences and using that information to determine whether to imitate the behavior (Cooper et al., 2020). Bandura's experiments helped to illustrate the importance of observational learning and its role in child development. Based on the findings of observational learning theory, modeling has become a tool often used in intervention research. Furthermore, modeling has become one of the most prevalent interventions for teaching social skills to children with ASD (Matson, Matson & Rivet, 2007).

Modeling interventions for children with ASD include two primary formats: in vivo modeling and video modeling (Cooper et al., 2020). In vivo modeling consists of a model being present and demonstrating a skill, and then the learner having an opportunity to imitate the skill (e.g. Bandura, Ross & Ross 1961). Greer and Singer-Dudek (2008) used in vivo peer models to teach preschoolers to find neutral objects reinforcing. The researchers first evaluated the neutral objects (including a piece of string and plastic disc) to ensure they were not reinforcers to the participants. Then, the five participants observed peer confederates receiving the plastic disc or piece of string after completing a task. The peer confederates later exchanged the neutral objects for other reinforcers, but never in the presence of the participants; therefore, the participants were only able to see the peer receive the neutral objects, and the peer's reaction. After the peer observation condition, the string and disc were evaluated for reinforcing effects again. The researchers found that the participants had learned to find the neutral objects reinforcing.

Video modeling is an evidence-based practice (Qi et al, 2018) in which an individual is presented with a video of a model performing a skill, and then is given an opportunity to engage in that skill (Bellini & Akullian, 2007). In contrast to in vivo modeling, using a video of a model (e.g. Bandura, 1965) does not require the presence of a model in person. Multiple types of individuals can serve as the model in the video, including the learner themselves (video self-modeling), peers, or adults (Bellini & Akullian, 2007; Park, Bouck, & Duenas, 2019). A study by Charlop-Christy, Le, and Freeman (2000) reported that video models were more effective than in vivo models when teaching developmental skills to children with autism, and that the skills taught by video models had greater generalization than the skills taught by in vivo models. A benefit of using a video model may be that children with ASD are more likely to attend to a video than they are a person (Charlop-Christ, Le & Freeman, 2000).

Despite overwhelming positive outcomes of video modeling for children with ASD (Cardon et al, 2019; Bellini & Akullian, 2007; Petursdottir & Gudmundsdottir, 2021), there is some variability in outcomes. Plavnick et al (2015) used video modeling to teach participants to initiate social interactions with peers, and found video modeling effective in teaching one skill, but not the other. This study used a single-case reversal design, with intervention alternating between a sharing condition, where participants were given a high preference item and asked to share it with a peer, and a joining condition, where a peer was given a high preference item, and the participant was asked to join them. They found that video models were effective in teaching the participants to join peers, but they were not effective in teaching participants to share. The authors speculated that the consequences depicted in the models may have had an effect on participant outcomes, as the joining condition portrayed the model receiving a high preference item by initiating a social interaction, and the sharing condition portrayed the model having to give partial access of a high preference item to a peer (Plavnick et al, 2015).

Another study by Osos et al (2021) found variability across participants when using video models embedded within an electronic activity schedule to teach social skills. Using an alternating treatment embedded within a multiple probe across participants design, this study compared electronic schedules to video-enhanced electronic activity schedules. Three out of the four participants reached mastery criteria for the social skill of "showing an item to a peer" when intervention included the video-enhanced electronic activity schedule (Osos et al, 2021). However, one participant did not reach mastery criteria, which raises questions regarding individual differences that may affect the use of video-enhanced activity schedules, and more broadly, video models.

Expanding on this, Ezzeddine et al (2019) used video models to teach dyads with ASD to engage in play comments while engaging with a game or activity. The authors of this study found that video models alone were effective for teaching some participants to engage in a ten-exchange scripted reciprocal conversation; however, some participants needed additional reinforcement (outside of social contingencies) and additional prompting. Similar to the studies discussed above, the Ezzedine et al investigation shows some children with ASD may not benefit from video modeling alone.

**Commercially Made Video Models**

One potential limitation of video models for clinicians is the time and effort it may take to create individualized video models. In addition, storage may be a barrier to sustained implementation. Commercially made video models stored on cloud computing systems may be a solution to this, although limited research has evaluated the effectiveness of these videos. In one example, Morclock et al. (2014) found that commercially available video models were effective in increasing word recognition and pronunciation for adolescents with ASD. However, Mechling et al. (2013) compared custom made video models to commercially available models when teaching four adolescents with ASD cooking skills and found that all participants were able to perform more steps of a task analysis independently when taught with custom made videos than with commercially available models. Because custom videos incorporate elements such as the scene in which behaviors will be performed, models the child might know, and preferred items that could function as reinforcers, there may be differences in the efficacy of custom versus commercially made videos. In addition, commercially made videos are typically available to families or practitioners at a cost (i.e., monthly subscription). Therefore, it is critically important to conduct additional research to evaluate the effects of commercially made video models. The current study seeks to evaluate the following question: Are commercially made video models from one company (Gemiini) effective in teaching a basic social skill to children with ASD?

# METHOD

## Participants and Setting

Three participants were included in this study. All participants were between the ages of two and five years old. The participants all attended an early intensive behavior intervention (EIBI) program located within a Head Start building. The EIBI program contained two treatment rooms. Participants were included if they met the following criteria: a.) A medical diagnosis of ASD; b.) had a generalized imitative repertoire c.) demonstrated the ability to attend to a video model for a duration of thirty seconds. The opinion of the participants' behavior analyst was used to initially determine if they had a generalized imitative repertoire, as well as provide input on previous targets in their programming that each potential participant had mastered. The opinion of the participants' behavior analyst was also used to determine if they had mastered the targeted social skill in this study. Participants were also given a pretest generated by the researcher containing ten novel actions to imitate to ensure they had a generalized imitative repertoire (see Appendix A).

Max was a four-year-old boy with a medical diagnosis of ASD. At the beginning of this study, he was in his second year of EIBI. On his most recent Verbal Behavior Milestones Assessment and Placement Program (VBMAPP; Sundberg, 2008), Max scored a 13 (out of 15) on the Level 3 (30-48 months) mand skills section, and a 14 (out of 15) on Level 3 social skills, indicating he is close to meeting age-appropriate milestones in these categories. He was observed to talk in complete sentences and initiate social interactions with adults and peer. Max demonstrated the ability to imitate novel actions, scoring 100% when given ten behaviors to imitate during a pre-study assessment, including motor actions and vocalizations.

Jane was a five-year-old girl with a medical diagnosis of ASD. She was in her third year of treatment at the beginning of this study. On her most recent VBMAPP, she scored two and a half points out of five in the Level Two (18-30 months) social skills section, indicating she is significantly behind in meeting age-appropriate milestones in this sector. She scored a half point out of five on the Level Three (30-48 months) mand section, indicating she is behind in meeting age-appropriate milestones in this sector as well. On the pre-study generalized imitative repertoire test, Jane scored 100%, indicating the ability to imitate motor actions and vocalizations.

Charlie was a four-year-old boy with a medical diagnosis of ASD. He was in his second year of EIBI at the beginning of this study. On his most recent VBMAPP, Charlie scored an additional one and a half points in the Level One (0-18 months) social skills sector, bringing him up to five out of five points. He has not yet scored any points in the Level Two (18-30 months) social skills sector, indicating he is significantly behind in meeting age-appropriate milestones in this domain. Charlie did not score any points in the Level Two (18-30 months) mand section, indicating he is also significantly behind in meeting age-appropriate milestones in this domain. He was observed to imitate vocalizations, as well as to make some spontaneous one-word mands. He demonstrated the ability to imitate motor actions and vocalizations during the pre-study assessment, scoring 90% on the 10-item test.

Intervention occurred in the participants' treatment rooms. Peers were present in the treatment room, as well as their behavior technicians. Treatment rooms resembled typical preschool classrooms, with individual tables for each student, as well as larger tables for group activities. Video models were presented on a laptop computer on a rug on the floor.

## Materials

Participants were presented commercially made videos from the company GemIIni. Videos consisted of models performing the targeted skill of saying "thank you" across differing scenarios. Each participants' video contained two examples of the skill being taught. Both examples of the behavior were structurally similar, including a model first stating the targeted cue to respond to, then an example of the skill being presented. For example, one video clip included a model stating, "Thank you." This was followed by a video of a woman and two children. One child was asked for an item, and when the woman handed it to them, they said "Thank you." The examples of actors performing the targeted skills included models with children, and models with children and adults.

## Dependent Measure and Data Collection

The dependent measure of this study was correct imitation of the video model portraying the behavior of saying, "thank you". Correct imitation was defined as the participant vocally saying "thank you" within five seconds of being given an item by the behavior technician. A per-opportunity measure was used, calculating the percentage of trials in which the participants correctly imitated the model. A trial was considered correct if the participant engaged in the modeled behavior within five seconds of the opportunity to respond. If no response was emitted or the participant engaged in a behavior other than the one modeled, the trial was scored as incorrect. Each session included the presentation of one video, as well as one contrived opportunity for the participant to respond by imitating the model.

Data were collected by a behavior technician trained on implementing video modeling. This training involved a roleplay session with the researcher in which the behavior technician was required to accurately complete 100% of the components on the procedural fidelity checklist (Appendix B). All data were collected on a datasheet provided by the author (Appendix C). A graduate level researcher acting as a secondary observer was trained on the operational definition the targeted behavior. Training involved the secondary observer being shown five videos of actors engaging in situations similar to the contrived opportunities participants were presented. They were then asked to determine whether the target behavior occurred or not. They were required to reach 100% accuracy before being shown videos of actual participants' sessions to score. Point-by-point correspondence was used to calculate interobserver agreement (IOA). IOA was taken for 30% of sessions across all conditions. The videos shown to the researcher were chosen using an online random number generator for each condition. An agreement was defined as any instance in which the researcher's score matched that of the second observer on that particular trial. A disagreement was defined as any instance in which the researcher's score did not match that of the second observer's score. Point-by-point agreement was used to calculate IOA, dividing the number of agreements by the total number of agreements and disagreements, then multiplying by 100 (Ledford & Gast, 2018). Interobserver agreement was 100% for all participants across all conditions.

**Experimental Design**

A multiple-probe across participants design was used to evaluate the effectiveness of commercially made video models in teaching participants social skills (Ledford & Gast, 2018). This design was chosen as it was expected that participants would engage in low to zero levels of the target behaviors without intervention, and excessive sessions in baseline may be unnecessary and result in unnecessary time away from instructional activities. Five baseline sessions were conducted for all participants. Intervention was then implemented with the first participant. Once data demonstrated a steady level following intervention for the first participant, the intervention was introduced to the next participant, and so on, until all participants were sequentially introduced to the intervention phase. As each participant was transitioned into the intervention phase, all participants were exposed to a probe session identical to baseline to assess any changes in performance levels over time.

## Procedure

**Baseline sessions.** Baseline sessions were included to assess the extent to which participants emitted the target skill before they received the intervention of GemIIni video modeling. Baseline sessions consisted of participants being presented a contrived opportunity to engage in their targeted social skill without being shown a video model. Each session began with a behavior technician saying, “Let’s play!”, and engaging with the participant with a toy or activity for about 30 seconds. The behavior technician would then provide an opportunity for the participant to engage in the behavior of saying, “thank you”. For example, the behavior technician would withhold part of a toy the participant was playing with, such as a part of a “Mr. Potato Head” toy, and then provide the missing piece. The behavior technician would then wait to see if the participant said, “Thank you” within five seconds of being given the opportunity. Five trials were run per session.

**Intervention.** Intervention sessions were similar to baseline sessions, except participants were presented video models of a targeted skill. In each session, the participant was given the $S^D$, “Watch the video” by a behavior technician. They were then presented a video on a laptop including a vocal model two examples of a model saying “thank you”. The participant was then presented with a contrived opportunity to engage in the targeted skill identical to the procedure used during baseline sessions. If the participant engaged in the skill, putative reinforcement was provided in the form of edible items. If they did not, reinforcement was withheld, and the trial was terminated. Watching the video model and engaging in the contrived opportunity consisted of one trial. Five trials were run per session.

**Procedural Fidelity.** Procedural fidelity was taken for 30% of all sessions across all conditions. To assess procedural fidelity, a secondary observer watched a video recording of a session, and completed a procedural fidelity checklist, which outlined each step that should have occurred in each session (see Appendix B for full checklist). A per-opportunity measure was used to calculate procedural fidelity, using the formula of components accurately completed divided by the total number of components. Procedural fidelity was above 90% for all participants in all conditions during the sessions observed, with a mean score of 98% (range: 92%-100%) for Max, 96% (range: 92%-100%) for Jane, and 99% (range: 92%-100%) for Charlie.

# RESULTS

Figure 1 illustrates the percentage of trials each participant independently engaged in the target response during each condition. Max showed no levels of responding during baseline, remaining at 0% correct responding. When intervention began, he varied between 0% and 20% for the first eight sessions. During these sessions, he was observed to say "thank you" along with the video model, but not consistently when given a contrived appropriate opportunity to do so. Max then increased to 100% correct responding during session nine, and he remained at 100% for the next three sessions, when data collection was terminated at session eleven.

Jane and Charlie demonstrated no instances of the target response during baseline and intervention sessions, remaining at 0% correct responding. When intervention began, both participants remained at 0% until data collection was terminated, after session seven for Jane, and session five for Charlie. Jane was observed to say "thank you" along with the video model while it was being played, but never when given a contrived appropriate opportunity to do so. Charlie was never observed to say, "thank you".

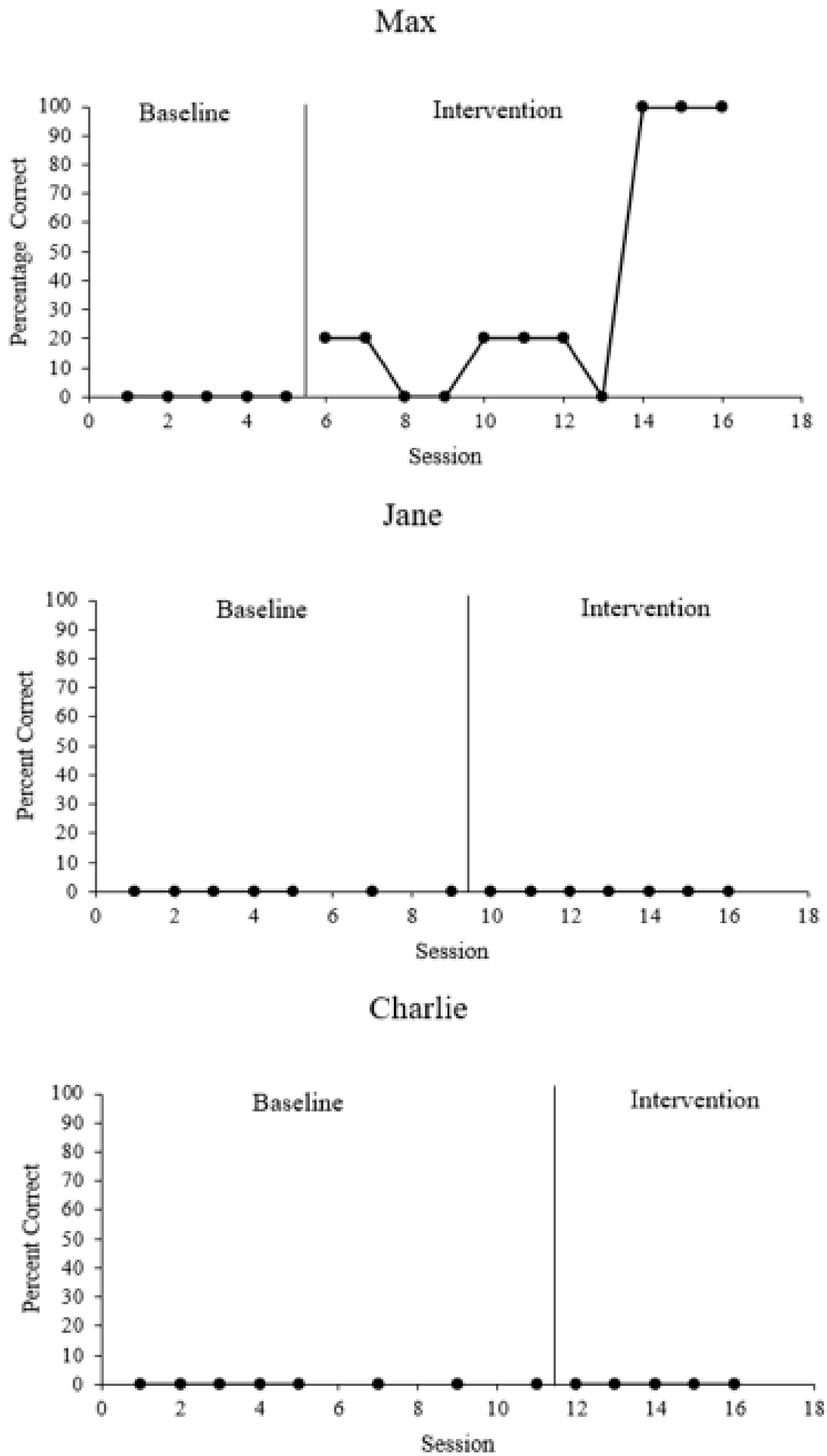


*Figure 1. Imitation of Saying "Thank You" Across Participants*

## DISCUSSION

This study was conducted to evaluate the effectiveness of commercially made video models for teaching children with ASD the social skill of saying, “thank you”. We found that video models from the company GemIIni were effective in teaching one participant to say, “thank you”, but showed no effect on this behavior for the other two participants. The variability in results raises important considerations for future research on video modeling, as well as for consumers who might be interested in using GemIIni and other commercially available video models.

The results of the present study combined with previous research (Osos et al, 2021; Ezzedine, et al 2019) help to shed light on who video models may be most effective for. Osos et al (2021) found that video models embedded in an electronic photographic activity schedule were effective for three of the four participants included. Furthermore, Ezzedine et al (2019) found that video models alone were effective in teaching three out of the six participants included to make play comments during games. Although Osos et al (2021) and Ezzedine et al (2019) both found video modeling to only be effective for some participants, the present study expands on this by using commercially made video models instead of standard video models. Although the data is preliminary, because only one participant out of three ever displayed the target behavior, the present study may suggest commercially made video models have a smaller population they are effective with than standard video models.

It is unclear what led to the video models being effective for one participant, but not the other two. One factor that may have affected the results of this study is participant motivation. One benefit of typical video models is that they can show the individual the desired consequence, such as when Plavnick and Vitale taught children with ASD to mand for preferred items and used video models showing the model receiving the preferred item (Plavnick & Vitale, 2016). In contrast, contriving an opportunity to say “thank you” by giving the participant a preferred item posits a unique issue, where the participant has already received a preferred tangible item, therefore, motivation to engage in the modeled skill might be low. This is consistent with research by Plavnick et al (2015), which found video models effective when teaching children to join in an activity, where the video model depicted the model gaining access to a highly preferred item, but not effective for teaching children to share, where the video model depicted having to split access to a highly preferred item with a peer. These prior results combined with results of the present study might suggest that video modeling is more likely to be effective if a desired outcome is depicted in the model.

The current study combined the use of commercially made video models with putative reinforcement in the form of edible reinforcers in combination with social praise. However, only Max contacted this reinforcement, as he is the only participant who ever engaged in the behavior. Previous research has suggested that contacting reinforcement plays an important role for children with ASD in motivation to perform a behavior (Koegel & Egel, 1979). The video models did not include the model receiving additional reinforcement, but including this may have benefited the other participants. Combining the putative reinforcement with the video models might also help explain Max’s pattern of responding; his initial low levels of engaging in the behavior of saying “thank you” could be attributed to the video models, and his later increase in responding may have been affected by both the video models, and the reinforcement given. However, it is interesting that Max did not begin consistently responding until the eighth session, when he contacted putative reinforcement in all except two sessions throughout the intervention condition. This may indicate the item chosen to use as reinforcement did not hold as much value for Max as we had expected.

Max showed single instances of responding (i.e., one out of five trials) during five of the first seven intervention sessions. Those responses may have been an indicator that with more intervention sessions, he would eventually acquire the target skill. This initial responding was not observed for the other two participants, who never went on to engage in the behavior. This has implications for parents who are looking to purchase a subscription to commercially made video model. For example, parents could benefit from a free trial period. If their child shows some levels of responding, it may be beneficial to them to purchase the video models, but if their child shows no levels of responding, the video models may not be effective. Currently, GemIIni offers a seven-day free trial period. However, it may be a benefit to the company to offer yearly free trials, as a parent might see no responding during the first trial period, but by the next year, their child could progress enough to help the video models to be effective, at which time it could benefit their child to purchase the models.

Max showed distinct differences from the other participants in VB-MAPP scores, and particularly in scores in the social domain. Max scored at the high end of the Level Three bracket (the highest level), while Jane scored towards the middle of Level Two, and Charlie scored at the low end of Level One. Because the skill of saying "thank you" falls within the social domain, this may have played a role in Max acquiring the skill, but not the other participants. This could be relevant to parents looking to buy commercially made video models, especially to teach social skills, as the models may only be effective if their child already has a considerable amount of skills within this domain.

Although more research is needed to evaluate the effects of commercially made video models, this study calls into question whether companies selling these models can claim their product to be "evidence-based therapy" (geminii.org/evidence). Extrapolating research from standard video modeling to commercially made video models may be deceiving to consumers, as outcomes may be varied across consumers. Furthermore, to be as transparent as possible, companies should consider specifying which skills and for whom the use of their video models has been effective, instead of presenting a product as effective for all.

**Limitations and Future Research**

This study has several limitations. One major limitation is due to an error in procedural fidelity. Although procedural fidelity percentages were generally high, it was noticed after intervention was completed that one participant (Jane) was not being shown the full video model. She was presented a clip of a model saying, "Thank you", as well as a close-up video of a mouth pronouncing "thank you", but never the clips of models saying, "Thank you" in context. Although Jane still did receive most of the intervention, the intention of the video models was to show the behavior in context for that participant to imitate, and Jane did not see these examples. Therefore, we cannot be certain that her data are representative of what her performance would have been had she seen the third and final 'thank you' in each video model.

Another limitation is that putative reinforcement in the form of preferred edible items were used in combination with the video models, making it difficult to parse out the effects of the video models from the effects of the reinforcement for Max. The decision was made to use additional reinforcement to more closely resemble how interventions are typically used in a clinical setting, however, more research may be needed to separate the effects of reinforcement from commercial video models.

Furthermore, the putative reinforcement used was based off a preference assessment done before the study began. Although Max is the only participant who contacted reinforcement, this may have affected his levels of responding. Because of the length of this study, his motivation for the items indicated as preferred in the preference assessment may have changed. He potentially could have shown an increase in behavior earlier in the study if a preference assessment was run before each session to more accurately reflect current motivation.

Another limitation of the study is that the items that were provided to the participants when contriving an opportunity to say, “thank you” were not assessed for participant preference but were instead chosen by behavior technicians anecdotally as items they believed the participant enjoyed playing with. This may have affected the participants’ willingness to say “thank you” for the item, as it was not certain that the item was preferred. Future studies might systematically evaluate the items being given to ensure that they are preferred by the participant.

Additionally, this study only evaluated the effects of GemIIni video models for the specific skill of saying, “thank you”. More research is needed to evaluate video models that focus on other social skills, as well as skills in different sectors, such as receptive language, play skills, or life skills.

Overall, this study indicates that GemIIni video models may be effective in teaching the social skill of saying “thank you” to some individuals, but not all. Initial variability in responding during intervention may indicate a likelihood that the individual may progress to more consistent responding later in intervention. More research is needed to determine what makes commercially made video models effective for some individuals.

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## APPENDIX A

Generalized Imitative Repertoire Pretest

Participant: ___________________

Date: ________________________

Assessor: _____________________

| | Item | Correct (+) or Incorrect (-) |
|---|---|---|
| **1.)** | Touch nose | |
| **2.)** | Arms Up | |
| **3.)** | Say “ah” | |
| **4.)** | Clap hands | |
| **5.)** | Say “thhh” | |
| **6.)** | Stomp feet | |
| **7.)** | Say “ooh” | |
| **8.)** | Touch belly | |
| **9.)** | Touch head | |
| **10.)** | Jump | |

## APPENDIX B

Procedural Fidelity Checklist

| Baseline Condition | | | |
|---|---|---|---|
| **Prior to Session:** | | | |
| A play area with preferred toys/items is set up (including a preferred item in the possession of the behavior technician). | Yes | No | N/A |
| Video recording equipment is set up. | Yes | No | N/A |
| **During Session:** | | | |
| The behavior technician gives the $S^D$, “Let’s play!” or “Come play!”. | Yes | No | N/A |
| The behavior technician waits to see if the participant comes to the designated area/engages with toys. | Yes | No | N/A |
| If the participant does not come to the designated area, the behavior technician repeats the $S^D$ after 10 seconds. | Yes | No | N/A |
| The behavior technician presents an opportunity for the participant to say “thank you” by providing a preferred item within 60 seconds of the participant coming to the play area. | Yes | No | N/A |
| **Throughout Session:** | | | |
| The behavior technician ignores problem behavior except when repeating $S^D$s after 10 seconds. | Yes | No | N/A |
| The behavior technician ends the session if the participant does not attend to $S^D$s or engages in problem behavior for three minutes or more. | Yes | No | N/A |
| Five trials of providing opportunities to say “thank you” are run per session (unless problem behavior interferes). | Yes | No | N/A |
| The BT did not say “thank you” during the session. | Yes | No | N/A |
| **Total Number of Components Completed:** | ____ / ____ | | |

| Intervention Condition | | | |
|---|---|---|---|
| **Prior to Session:** | | | |
| A play area with preferred toys/items is set up (including a preferred item in possession of the behavior technician.) | Yes | No | N/A |
| The participant’s correct video is queued. | Yes | No | N/A |
| Video recording equipment is set up. | Yes | No | N/A |
| **During Session:** | | | |
| The behavior technician assures attending. (“____, look!”, and waits for the participant to orient themselves towards the screen). | Yes | No | N/A |
| If the participant does not attend, the $S^D$ is represented after 10 seconds. | Yes | No | N/A |
| The behavior technician gives the $S^D$, “Watch the video.” | Yes | No | N/A |
| The correct video for the participant is played in its entirety within 15 seconds of presenting the $S^D$, "Watch the video”. | Yes | No | N/A |
| The behavior technician gives the $S^D$, “Let’s play!” or “Come play!” within 10 seconds of the participant watching the video. | Yes | No | N/A |

| | | | |
|---|---|---|---|
| The behavior technician waits to see if the participant comes to the designated area/engages with the toys. | Yes | No | N/A |
| If the participant does not come to the designated area, the behavior technician repeats the $S^D$ after 10 seconds. | Yes | No | N/A |
| The behavior technician presents an opportunity for the participant to say "thank you" by providing a preferred item within 60 seconds of the participant watching the video. | Yes | No | N/A |
| **Throughout the Session:** | | | |
| The behavior technician ends the session if the participant does not attend to $S^D$s or engages in problem behavior for three minutes or more. | Yes | No | N/A |
| Reinforcement is only presented if the client engages in the correct behavior during contrived opportunity within 5 seconds of the $S^D$ being presented. | Yes | No | N/A |
| Five trials of providing opportunities for the client to say "thank you" are run per session (unless problem behavior interferes). | Yes | No | N/A |
| The video model was shown before each trial. | Yes | No | N/A |
| The BT did not say "thank you" during the session. | Yes | No | N/A |
| **Total Number of Components Completed:** | ____ / ____ | | |

## APPENDIX C

Datasheet

**Client Number: ________________** **Assessor: _______________________**

**Date**: ________________

**Condition**: Baseline Intervention **Session**: AM PM

| **Trial** | **Video was shown? (Circle Y or N)** | **Correct (+) or Incorrect (-)** |
|---|---|---|
| **1.)** | Y / N | |
| **2.)** | Y / N | |
| **3.)** | Y / N | |
| **4.)** | Y / N | |
| **5.)** | Y / N | |
| **Trials correct: ____ / ____** | | ______% |