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Video Self Modeling: Does it help children with autism socialise?

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INTRODUCTION

Background

- Difficulties with socialisation are a hallmark of Autism Spectrum Disorders (ASD). There is an ongoing need to develop novel and effective interventions to promote social development in children with ASD. The past decade has seen a marked increase in the use of video modelling (VM) and video self modelling (VSM) as a tool to help children with ASD to learn to socialise (Mehta et.al, 2010)
- Video self-modelling (VSM) is a variant of video modelling in which a child watches a video of themselves engaging in appropriate play and social interaction (Bellini, S., Akullian, J., & Hopf, A. 2007).
- VSM generally takes more time and trouble to implement than video modelling (VM) but it is felt that if the child watches themselves performing targeted behaviour it provides more concrete representations of goals of the intervention (Wert & Neisworth, 2003).

Purpose of the Study

- Evaluate the effectiveness of an intervention programme using VSM to increase the social skills of young children with ASD. To date, the presenter is only aware of four studies in which VSM was utilised as the primary intervention without other intervention components such as instructional prompts and reinforcers (Bellini et. al., 2007; Bugghey, 2005; Bugghey et. al., 1999; Wert & Neisworth, 2003).
- This study was intended to add to the body of literature on VSM and provide some extra measures of generalisation and maintenance by having two follow up observation phases.
- It was predicted that after the baseline period, VSM would result in some increase in social behaviour and show some degree of maintenance and generalisation.

METHOD

Participants

- A boy diagnosed with Aspergers Syndrome (VIQ = 110) and a girl diagnosed with Autistic Disorder (VIQ = 75) , both age 4 were involved in the study. They were in the same pre-school classroom with 10 other typical students. Assessment data indicated that both children had much lower than average levels of social interaction with peers than typical children at the beginning of the study.

Procedures

- The research design was a multiple baseline across participants. The duration of the study from baseline to follow up was four months. There were four phases in the study (baseline, training and two follow ups).
- The children were video taped playing with typical peers in groups of three. Getting the children to engage in appropriate social behaviour was achieved by the primary presenter prompting and encouraging both target ASD and typical children to role-play or imitate appropriate social behaviour. The videos were then edited using the I-Movie programme on an Apple Mac by the primary presenter. Two video clips (2 ½ to 3 minutes in length) of the target children engaging in appropriate social behaviour were created for each child. On average it took about sixty to ninety minutes of time filming to gain enough video tape samples of the target children displaying appropriate social behaviour to make the clips.

Observations

- The primary presenter and a trained observer carried out all of the observations during the study. The target behaviours were duration of social interaction (defined as actively engaging in joint attention, cooperative play, verbalisation, eye contact etc.) and frequency of verbal initiations and responses. The two observers coded the target behaviours using partial interval time sampling. Inter-rater reliability was good ($r = .98$, $P = .01$).

Baseline

- The baseline data was taken after filming took place. The children were in an open play setting with three typical peers in a small room within the school. The observation periods (intervals) were ten minutes in length. The duration of social interaction was measured in total number of seconds of interaction during the interval and the frequency of verbalisations was a tally of the exact number of the times the child engaged in an appropriate verbal initiation or response that was part of a social interaction. One important point that it was felt should be made clear was that the baseline data was collected after filming. It was not clear in some of the previous studies as to when exactly baseline data was gathered as there could be some training effect from the prompting that is required to get the target children to engage in some level of appropriate social behaviour.

Intervention

- The training phase was implemented over thirteen school days (three weeks). One of the children’s classroom teachers brought them to a small room set up with a television and a DVD player and watched the video with them. The only instruction the teachers gave was “This is a video of you playing nicely with your friends”. The teachers were instructed to prompt the child to look at the television if they got distracted. Both teachers noted that the children were for the most part quite attentive and interested in watching the video. The primary presenter also was in the room for three of the video watching sessions with the teacher to assure some level of fidelity. The viewing of the video typically took place after the morning role call and circle time session which was just prior to the children engaging in some unstructured or semi-structured open play. The observers continued to gather data during the intervention.

Follow-up

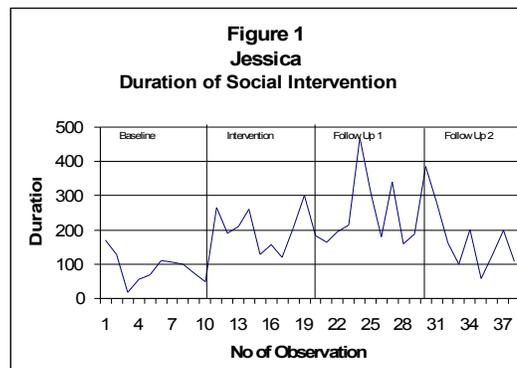
- Follow up period number one began one week after the training had ended (the children had viewed the last video) and the second follow up took place six weeks later.

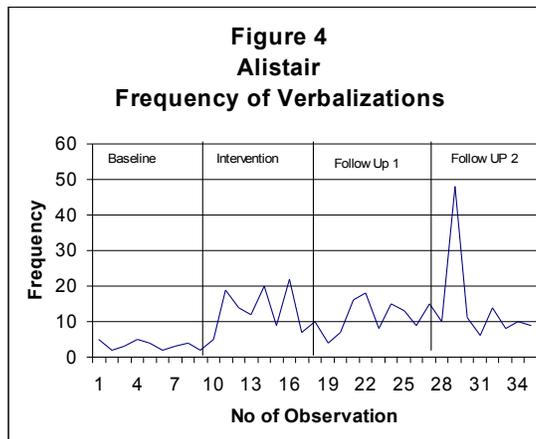
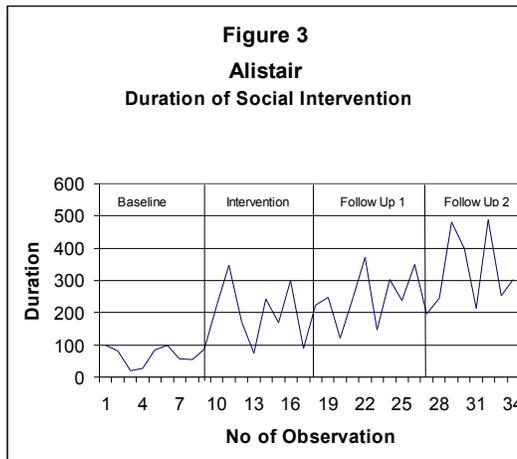
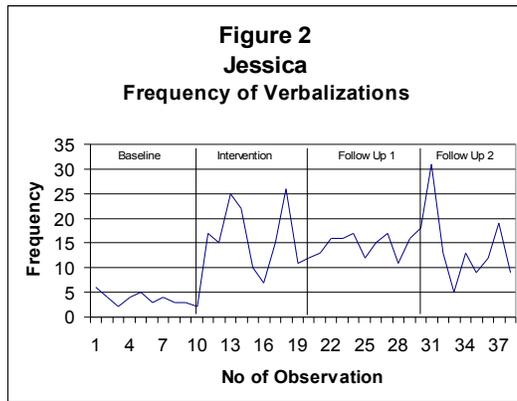
RESULTS

- The overall results of the VSM intervention were promising and indicated gains in social skills for both of the ASD children that took part in the study.

Mean Scores

- At baseline, Jessica was interacting an average of 15% of the time during the observations. This increased to 34% during the intervention phase and 43% at follow up one and 29% at follow up two (Figure 1)
- Jessica’s average number of verbal initiations and responses during baseline was 3.6. At intervention her average increased to 16 and at follow up one it was 15, at follow up two it was 13 (Figure 2)
- Alistair’s average percent of duration of social interaction stood at 11% at baseline. This increased to 34% at intervention and 41% at follow up one and 45% at follow up two (Figure 3)
- Alistair’s average frequency of verbal initiations and responses at baseline was 3. This increased to 13 at intervention and 11.2 at follow up one and 13 at follow up two (Figure 4).
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DISCUSSION

- Data suggest that there was an increase in socialization for both children from baseline to the end of the study. The average duration of social interaction and mean frequency of verbal initiations and responses increased for both children across the study. Observation data from each phase of the study was reasonably stable and the overall trends suggest that the intervention was successful in increasing the children’s level of social interaction while the study was being implemented.
- Treatment fidelity was ensured by having the teachers write down each day that they had asked the children to watch the video and the primary presenter also observed several of these sessions each week of the intervention. Overall, the teacher feedback was favourable in that it took little of their time and they perceived it as producing some positive results. Both of the children participated in watching the video and Jessica especially liked it and requested to watch more often. Alistair was always willing to watch the videos but never requested that they be continued.

LIMITATIONS AND FUTURE RESEARCH

Limitations

- It is difficult to isolate effects of the intervention as both children were participating in some sort of special education service such as speech therapy or small group teaching outside of school.
- The study was limited to two participants on the Autism Spectrum. Children with ASD often present with a wide spectrum of developmental difficulties and presentations thus making it difficult to generalise results of this intervention.
- The primary presenter acted as an observer for data gathering and the second observer was not blind to the purpose of the study thus increasing the chance for bias.
- Using VSM as an intervention to teach social skills can be very time consuming. Typically, hours of video footage of the children playing and interacting with others must be gathered and edited. Getting the target children to cooperate and demonstrate social skills that they find inherently difficult is also quite time consuming.

Future Research Suggestions

- Larger sample sizes and children that are more homogenous with regard to overall presentation and developmental level and possibly exposure to similar outside interventions would be helpful in determining the individual effect of VSM intervention. Additional measures of generalisation such as observations of the target children playing with unknown peers.
- Additional follow-ups at six months and one year intervals to check level of maintenance of the intervention could also be considered.
- An additional baseline measure taken before any filming may have resulted in even lower levels of social interaction from the participants. There may have been some increase in socialization as a result of the prompting required to get the ASD children to demonstrate appropriate social skills so they could be included on the video clips. However it is most likely that viewing the VSM clips had a greater effect based on the upward trend in the children's social behaviour after the intervention had been introduced.

****Tips for those who might want to try utilizing VSM****

You will likely need 30 minutes to one hour of filming to get 1-2 minutes of appropriate social interaction from a typical ASD child. Lots of prompts from adults and help from typical peers will be required as well.

Apple I-Movie is the best video editing programme available in my opinion. I tried many Windows based programmes and found them either impossible or very difficult to use.

It can take up to one hour to edit and then produce a 3 minute video clip.

Using VSM with ASD children who are not particularly keen on watching video (especially of themselves) does not seem to work well. Get an idea of how interested they might be in watching video from parents beforehand.

******* If anyone is interested in presenting/publishing research on social skill training and other topics related to working with children with autism I have existing data that needs to be organized and written. Let me know if you are interested*****
Contact me at cknight77hk@yahoo.com**

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