

The Use of a Social Story to Modify Inappropriate Behavior

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Introduction

- Autism is a developmental disorder with both a neurological and biological basis (Richard, 1997).
- Affects more than 1.5 million
- Third most common developmental disability; mental retardation and cerebral palsy occur more frequently (Powers, 2000).

Autism

- According to the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition Revised criterion for a diagnosis of autism include the following:
- (a) having qualitative impairments in social interactions, communication, obsessions or repetitious behaviors
- (b) an abnormal functioning in social interaction, language used for social communication, or symbolic play
- (c) disturbances that cannot be accounted for by another pervasive developmental disorder
- (d) onset prior to the age of 3
- (American Psychiatric Association, 2000) .

- Social interaction is one of the most troubling areas.
- With intervention and therapy certain characteristics can modify to approximate normal functioning; however, deficits in social skills remain (Richard, 1997).
- A lack of “theory of mind” has been proposed to account for the social impairments experienced in autism (Baron-Cohen, Leslie, and Firth, 1985).

- Carol Gray created social stories to help children with autism accurately understand social situations and compensate for a lack of “theory of mind”.
- It describes a situation in terms of relevant social cues and common responses. This extra information provides information assumed in certain situations (Gray, 1995).

- Grey's Ratio
- 1 directive : 2-5 descriptive or perspective
 - Three basic types of sentences:
 - Descriptive - explain the background in a situation
 - “I go to speech therapy.”
 - “There are lots of words on things in therapy.”
 - Perspective - describes the internal status of a person
 - “Sometimes I see words and want to read them out loud.”
 - Directive - a positively stated sentence that explains the desired response.
 - “When I need a break, I will give Chris my BREAK card.”

- Use of social stories has been found to be an effective treatment for reducing problematic behaviors in children with autism (Kuo & Miranda 2003).
- A social story adhering to Gray's guidelines presented in a natural environment targeting inappropriate behaviors is successful in decreasing the behaviors (Scattone, Wilczynski, Edwards, & Rabian, 2002).
- Past studies using the social story methodology presented the social story to the child in varying styles (i.e. different reading conditions and different presenters) and varying consistency.

Purpose

- The purpose of this study was to evaluate the effectiveness of a social story written to follow Grey's guidelines and consistently presented in the same manner as a treatment approach to modify inappropriate behaviors for two individuals diagnosed with developmental disorders.

Subjects

- Subject 1 – E.K.
- Twelve year old male.
- Diagnosed with PDD/Autistic traits characterized by moderate-severe expressive/receptive language delays.
- Received services since 1997.
- Attended first grade where he received 15 minutes of speech therapy twice a week. Now home schooled at the third grade level.
- Utilizes both sign language, an AAC device, and verbalizations to communicate.
- Currently takes both prescriptive medications and dietary supplements to reduce characteristics of autism.
- DAADD – highest scores occurred in Rett's syndrome and PDD-NOS.

- Subject 2 – M.B

- Seven year old female.
- Diagnosed with language delays associated with ASD/NOS.
- Received speech-language therapy for three and a half years.
- Currently enrolled in first-grade with a one-on-one aide.
- Exposed to the English and Philippine language in the home environment.
- DAADD- Scored above 40% in Asperger's, PDD-NOS, and Processing-LLD
- PPVT- Standard Score : 118 Percentile Rank : 88

Treatment Design

- An ABA(B) Withdrawal Design was used.

Baseline Procedures

- Discussion with subjects' supervisor, clinician, and parent determined inappropriate and alternative appropriate behaviors.
- E.K.
 - Inappropriate behaviors: Jumping, pounding, and yelling.
 - Alternative behavior: Giving clinician his “break” card.
 - Break consisted of a bathroom break, sensory box, and toys from home.
- M.B.
 - Inappropriate behavior: Irrelevant reading
 - Alternative behavior: Asking the question, “Are these words important?” with a goal of extinguishing irrelevant reading.
- Two weeks of baseline data were taken.

Treatment

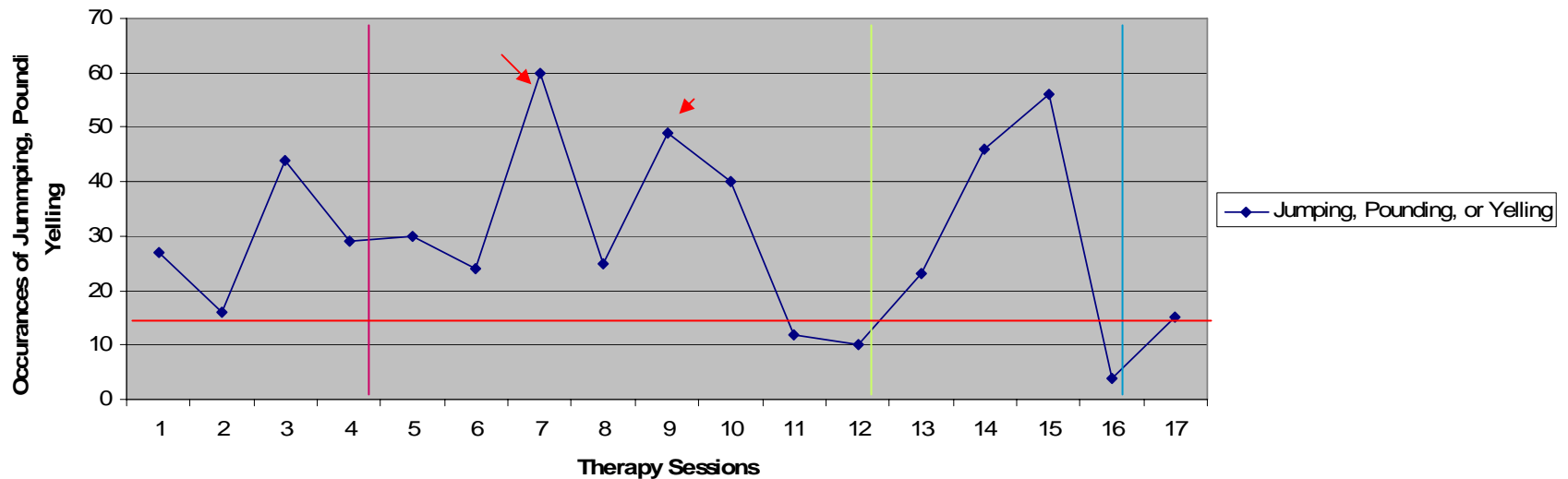
- A social story adhering to Gray's guidelines was created for each subject. The social stories suggested each subjects' alternative behavior.
- EX:
 - Before I read something in therapy, I will ask Ms. Tiffany, “Are these words important?”
- Treatment : clinician presenting the subjects' with their social story prior to therapy.
- Clinicians used specific prompts during therapy.
- Treatment occurred for 4 weeks.
- Therapy sessions were videotaped for data collection.

Dependant Variable

- The inappropriate behaviors and appropriate behaviors.
- Interjudge reliability was established with the primary investigator and another undergraduate researcher by utilizing a point by point agreement analysis for $\frac{1}{2}$ of all therapy sessions. A reliability of 90% was found.

Results- E.K.

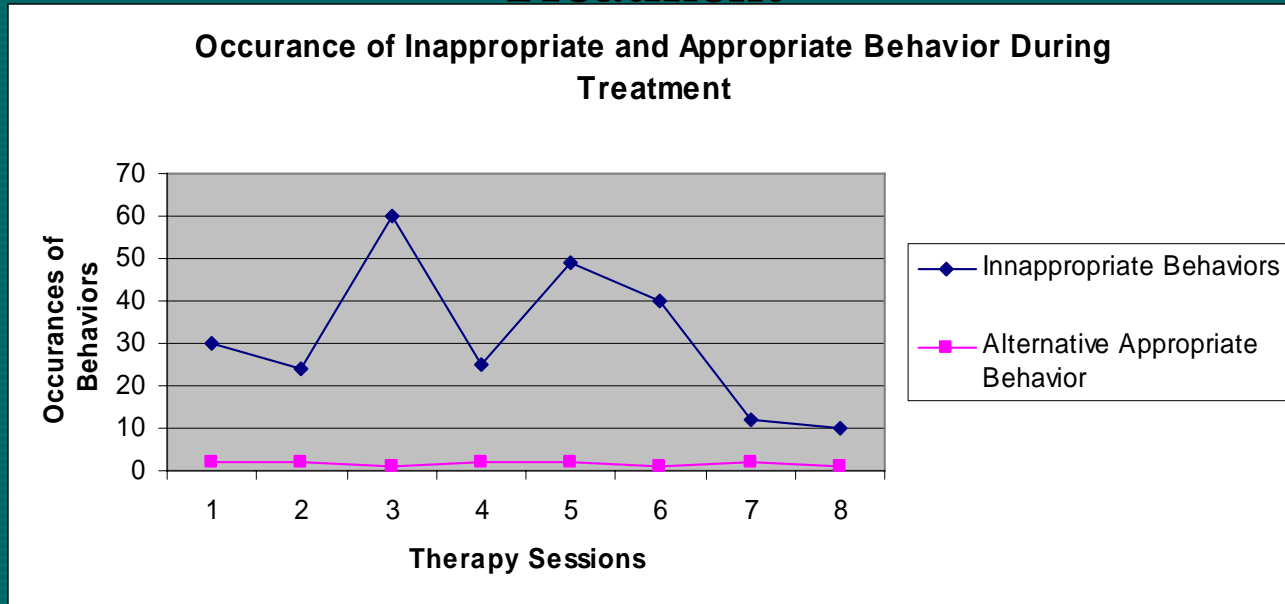
Occurance of Jumping, Pounding, or Yelling in Therapy During Study



	Baseline 1	Treatment	Baseline 2	Treatment 2
	29	31	32.3	15
Stand. Dev.	11.5	17.5	23.3	-
Criterion for disc.	15			
Criterion met		No		

Results

-Treatment-



Appropriate Behavior

Total: 13

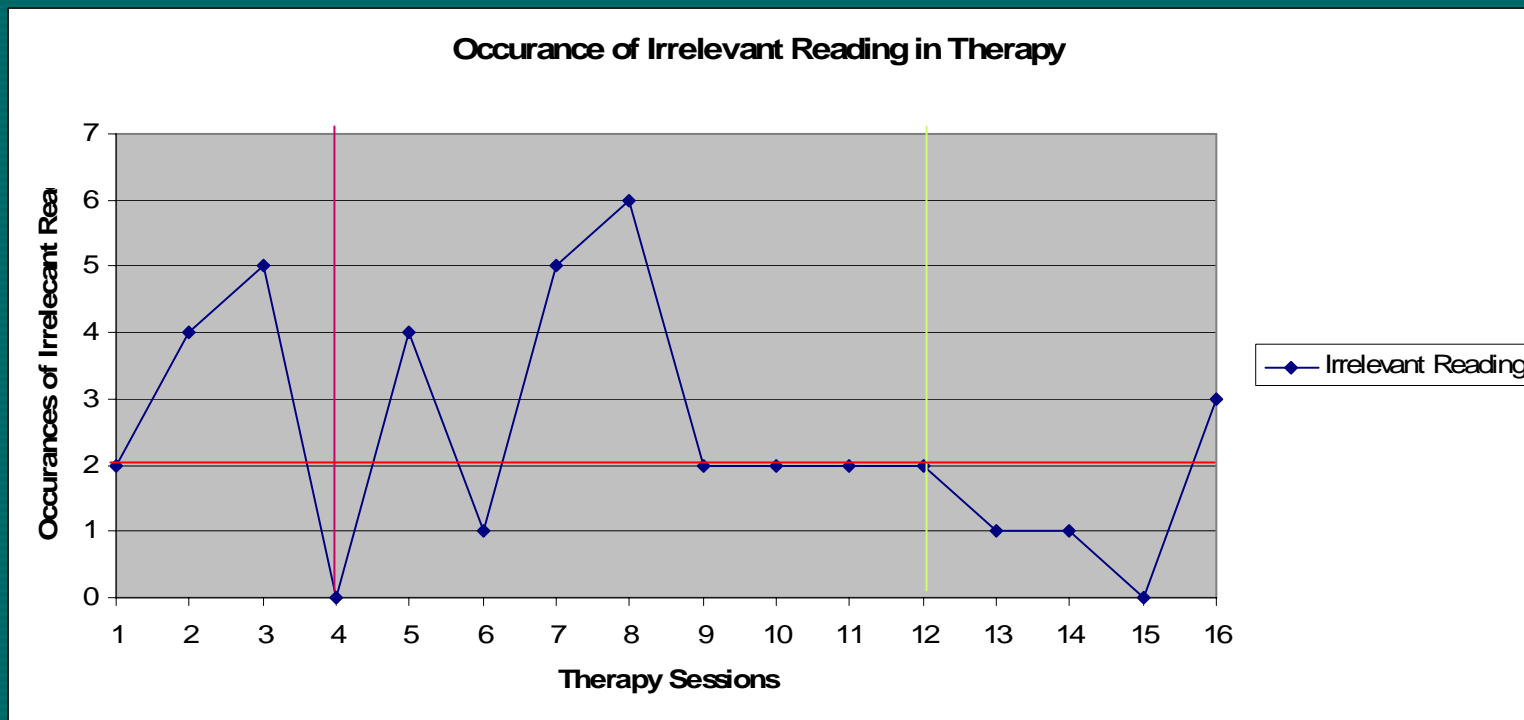
- Prompted : 12

- Spontaneous : 1

Average: 1.6

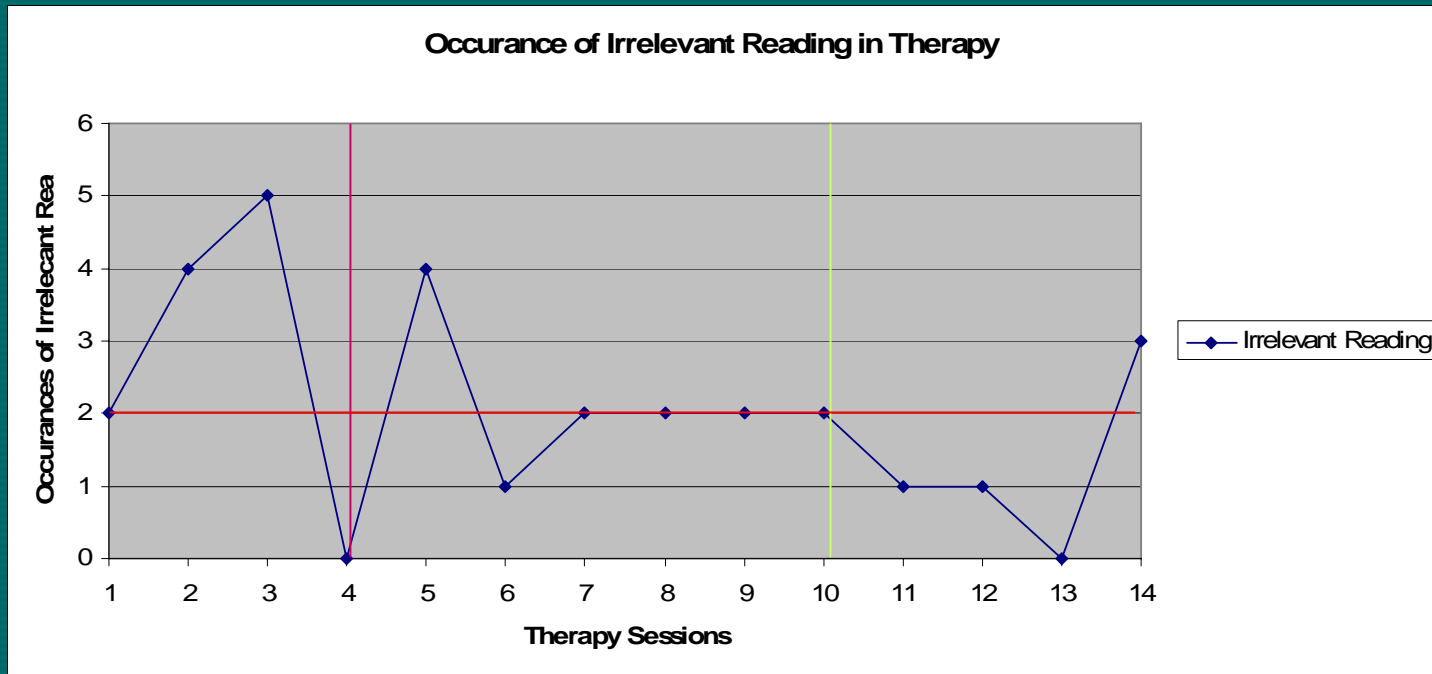
Standard Deviation: .5

Results-M.B.



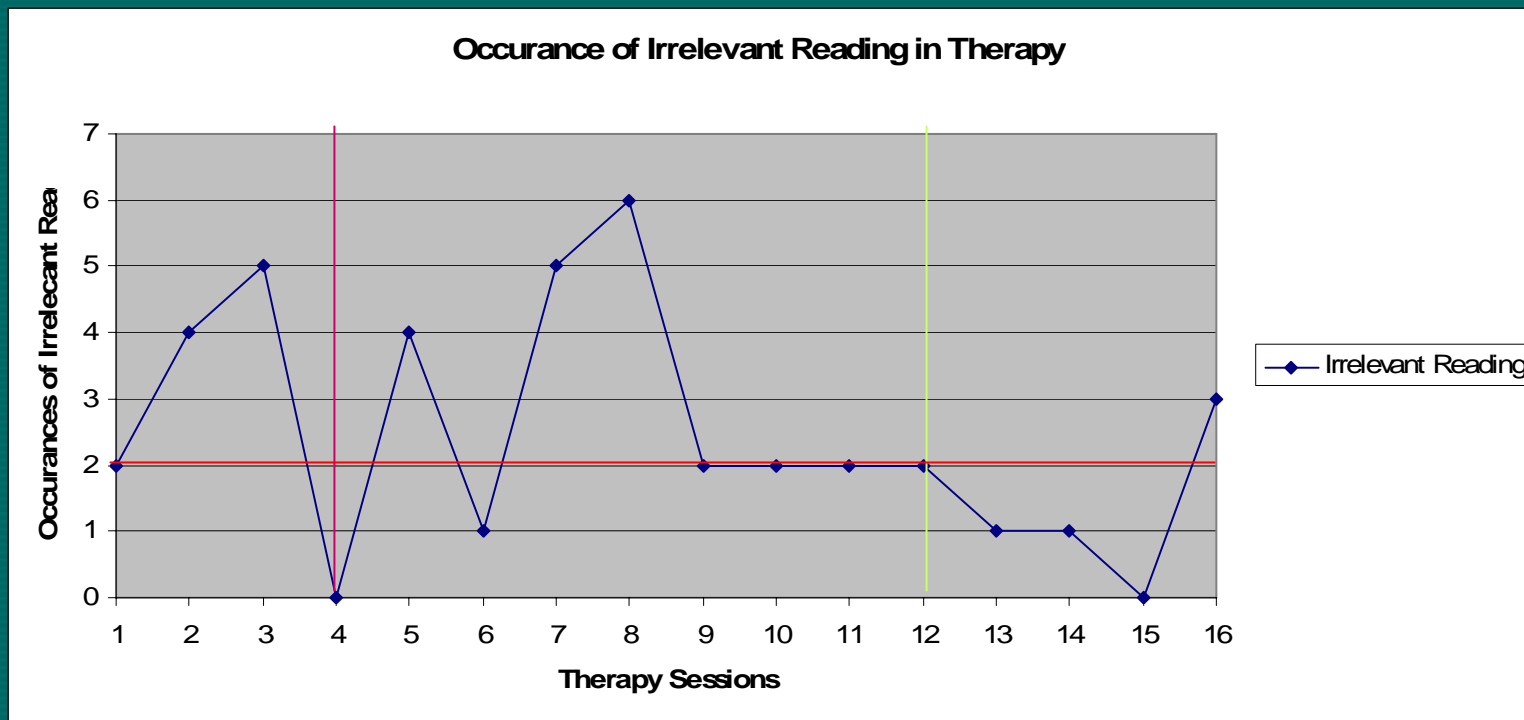
	Baseline 1	Treatment	Baseline 2
Average	2.27	3.1	1.25
Stand. Dev.	2.2	3.8	1.25
Criterion for disc.	2	3.5	
Criterion met		Yes	Yes

Results-M.B.



	Baseline 1	Treatment	Baseline 2
Average	2.27	2.1	1.25
Stand. Dev.	2.2	.98	1.25
Criterion for disc.	2		
Criterion met		Yes	Yes

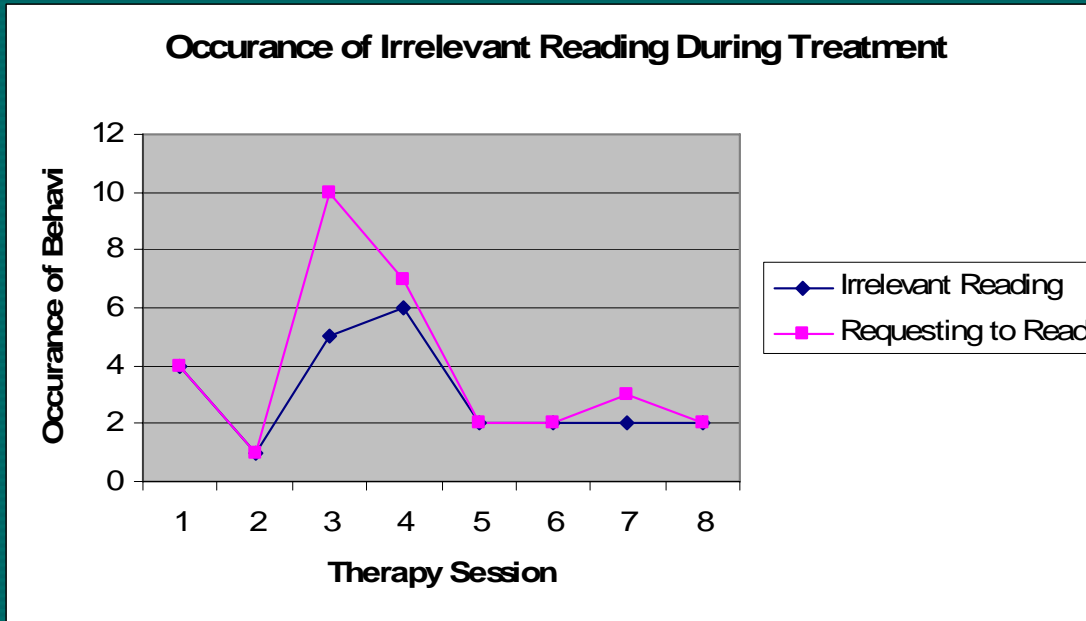
Results-M.B.



	Baseline 1	Treatment	Baseline 2
Average	2.27	3.1	1.25
Stand. Dev.	2.2	3.8	1.25
Criterion for disc.	2	3.5	
Criterion met		Yes	Yes

Results

-Treatment-



Appropriate Behavior

Total: 31

- Prompted : 25

- Spontaneous : 6

Average: 1.7

Standard Deviation: 3.5

Discussion

- E.K.
 - While his average inappropriate behaviors per session appears to have remained the same, anecdotal evidence indicates a decrease.
 - Essentially, he terminated his physical behaviors but continued to display the verbal behaviors. Since the behaviors were coupled together for data collection, it appears that it verbal increased.
 - If the behaviors were separated, a change may have been seen.
 - Had more success with the story when it was presented in the session.

- M.B.
 - M.B. didn't show an increase in the alternative behavior of requesting, she did decrease in irrelevant reading
 - Anecdotally, clinician and supervisor thought the social story made client more aware of her behavior but did not decrease it.
 - This differing opinion may be due to the low incidence of verbal requesting, even though irrelevant reading decreased.

Summary Comments

- Social stories effective for individuals of high and low cognition with developmental delays.
- An individual with impaired cognition, like E.K., requires that the social story must be read consistently to decrease behaviors.
- With an individual of typical cognition, the story can be faded and the decrease in behaviors will remain.
- Clinicians and supervisors had positive reactions to the methodology and would use social stories again with their clients.

Clinical Implications

- Support social story as a practical method for reducing inappropriate behaviors in the therapy setting.
 - Implementation is not intrusive and mirrors other therapy activities.
 - Easy to implement and can be read by nearly anyone in any setting.
- Supports use of social stories written in accordance with Gray's guidelines that are presented in the same fashion and by the same reader for individuals diagnosed with varying severities of developmental delays.

Limitations and Future Research:

- Incorporate more participants with varying degrees of developmental disorders across multiple settings and multiple implementers
- Separate inappropriate behaviors into physical and verbal categories
- ABA(B) phases might be more effective if they occur continuously without breaks.

Questions??

Thanks for coming!



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