

Lindenwood University

Digital Commons@Lindenwood University

Theses

Theses & Dissertations

2022

The Use of Differential Reinforcement of Other Behavior to Decrease Scripting

Kathleen Egbert

Lindenwood University, kathleen.m.egbert@gmail.com

Robbie Hanson

Lindenwood University, rhanson2@lindenwood.edu

Follow this and additional works at: <https://digitalcommons.lindenwood.edu/theses>



Part of the [Applied Behavior Analysis Commons](#), and the [Education Commons](#)

Recommended Citation

Egbert, Kathleen and Hanson, Robbie, "The Use of Differential Reinforcement of Other Behavior to Decrease Scripting" (2022). *Theses*. 106.

<https://digitalcommons.lindenwood.edu/theses/106>

This Thesis is brought to you for free and open access by the Theses & Dissertations at Digital Commons@Lindenwood University. It has been accepted for inclusion in Theses by an authorized administrator of Digital Commons@Lindenwood University. For more information, please contact phuffman@lindenwood.edu.

The Use of Differential Reinforcement of Other Behavior to Decrease Scripting

Kathleen M. Egbert

Dr. Robbie Hanson

Lindenwood University

Author Note

This study is based on a thesis submitted by the first author under the supervision of the faculty advisor to Lindenwood University as partial fulfillment of the requirements for an M.A. degree in Applied Behavior Analysis.

Abstract

Vocal scripting is a behavior commonly targeted for reduction with individuals with autism spectrum disorder (ASD) when it occurs at a rate or severity that interferes with learning (e.g., Koegel & Covert, 1972). Differential reinforcement of other behavior (DRO) has been shown to be effective for reducing scripting in previous research, however additional replications of these results would add to the research literature to continue to support its use for this issue. The purpose of this study was to implement a DRO schedule with a young girl with ASD to reduce vocal scripting. The results showed a slight decrease in scripting and revealed a treatment integrity (TI) issue during the initial intervention implementation. Findings, limitations, and areas of future research are discussed.

Keywords: differential reinforcement of other behavior, scripting, vocal scripting

The Use of Differential Reinforcement of Other Behavior to Decrease Scripting

Stereotypic behavior is a characteristic of individuals with autism and consists of repetitive vocal and motor movements (American Psychiatric Association, 2013). Commonly observed non-vocal topographies include, but are not limited to, hand flapping, body rocking, toe walking, spinning objects and sniffing (Cunningham & Schriebman, 2008) whereas vocal topographies have often included scripting, which involves the repetition of speech (Fine et al., 1994). These behaviors have commonly been targeted for reduction if occurring at a rate or severity that interferes with learning and independent living. For example, scripting has been shown to interfere with the development of appropriate speech and conversation skills (Joung, 2011; Koegel & Covert, 1972; Ross, 2002).

Several methods to decrease scripting have demonstrated to be effective in the research literature. For example, response interruption and redirection (RIRD) procedures typically involve interrupting scripting by quickly presenting a task that is physically incompatible with the problem behavior, followed by redirecting the client to respond with an appropriate vocal response (Butler et al., 2021). Although research has shown this to be an effective intervention, limitations exist, including a heavy time and resource commitment (DeRosa et al., 2019). This intervention may require frequent prompting, which may prevent its implementation in settings in which staff or caregivers are unavailable to deliver prompts contingent on every occurrence of the behavior (Lanovaz & Sladeczek, 2012). Further, RIRD is considered a punishment procedure. Thus, the use of this procedure should only be considered if reinforcement-based interventions have been exhausted (BACB, 2020).

One reinforcement-based procedure that has shown promising results in previous research to reduce problem behavior is differential reinforcement of other behavior (DRO;

Daddario et al., 2007; Kim, 2012; Raulston et al., 2019). This procedure involves the delivery of a reinforcer contingent on any behavior other than the problem behavior occurring for a predetermined interval of time (Cooper et al., 2020). DRO is a useful behavior-reduction intervention because it highlights the use of positive reinforcement while also avoiding aversive stimuli (Silla-Zaleski & Vesloski, 2010). For example, Daddario et al. (2007) assessed the effectiveness of a DRO schedule for a group of seven typically-developing preschool students to reduce disruptive classroom behavior. During baseline, problem behavior occurred an average of 0.63 instances per minute whereas after 18 days of intervention, problem behavior decreased to an average of 0.12 instances per minute. Although the results showed a decrease in problem behavior, some limitations existed including the use of an AB design which lowered the amount of experimental control, as it could not be determined if the independent variable was responsible for changes in the dependent variable. Another limitation was that the rate of reinforcement changed on a weekly basis rather than when there was a change in behavior.

Kim (2012) utilized a DRO schedule to reduce scripting with a 4-year-old boy with autism. Intervention included the use of a token board and backup reinforcement, and the results showed a reduction in scripting by 29% from that of baseline. In another study, a DRO procedure was combined within a treatment package to reduce scripting for a 12-year-old boy with autism (Silla-Zaleski & Vesloski, 2010). During baseline, the participant engaged in scripting an average of 44% of all intervals and following intervention, scripting decreased to 29% of intervals. Although problem behavior decreased, there were limitations to this study, which included a failure to return to baseline. Further, the combined intervention made it unclear which component of the intervention led to the reduction of behavior (Silla-Zaleski & Vesloski, 2010). Raulston et al. (2019) examined 16 different interventions to reduce repetitive behavior across 42

autistic participants. Of the 16 interventions, DRO was rated as a successful intervention for over 70% of participants (Raulston et al., 2019). Although previous studies exist that use DRO to reduce scripting, additional replication can provide further support for the use of DRO as an effective intervention for this behavior.

Method

Participant and Setting

One 13-year-old female student (referred to as KS hereafter) with a medical diagnosis of autism participated in the current study. The study occurred at a private school for children with autism between the ages of 2-20 years. KS was recruited to be a participant in this study due to the frequency of vocal scripting. KS was reported to read, write, and listen to and follow multiple-step directions from a speaker.

Data collection and treatment were completed during regularly scheduled treatment hours Monday through Friday from 9:00 a.m. to 3:00 p.m. within KS's classroom. Data were not collected from 11:45 a.m. to 12:15 p.m. each day when KS was outside at recess, or from 2:15 p.m. to 2:45 p.m. each day, when KS was in the sensory room. KS spent the majority of the school day with a line therapist in which she received 1:1 instruction. Four times each day, she engaged in group instruction with six other students. During data collection and treatment, KS was working on goals related to vocational work tasks to increase job skills.

The university's Institutional Review Board (IRB) approved all procedures and informed consent was obtained from KS's parents prior to implementation. No compensation was given for participation, and parents were informed that they could exit the study at any time without penalty.

Materials

Materials included a laminated set of rules (see Figure 1), items used as reinforcers, and data sheets and a writing utensil for the purpose of collecting data on problem behavior. A clock was necessary to determine the beginning and end of each interval, and a timer was used on the data collector's personal cell phone during intervention.

Dependent Variables and Response Definitions

The primary dependent variable was the percentage of occurrence for vocal scripting. This was defined as any instance in which KS made a non-word vocalization more than one time within an interval. Partial interval recording was used in which the school day was divided into 3 min intervals and a minus (-) was marked if KS engaged in scripting at any point during each interval. If she did not engage in scripting for an interval, a plus (+) was marked. The number of intervals containing problem behavior was divided by the total number of intervals, and that number was multiplied by 100 to obtain a percentage. Three-minute intervals were selected based on the frequency of scripting prior to the onset of this study.

Data collection during baseline and intervention began at the beginning of regular treatment hours after 10 min of arriving to her designated area and ended 10 min prior to dismissal (approximately 2:50 p.m.). Data collection was completed by one of four team members, depending on the time of day. Data collectors included her regularly scheduled line therapist, her Board Certified Behavior Analyst (BCBA), another line therapist for 30 min each day during lunch coverage, and the primary investigator of the current study.

Pre-Experimental Conditions

A latency functional analysis (FA; Neidert et al., 2013) was conducted prior to the current study to determine the function of scripting. The results of the FA concluded that scripting

occurred at similar latencies in the alone, attention and demand condition thus concluding the function of the behavior to be automatic.

Procedure

Baseline

During baseline, data were collected for 2 weeks during the participant's typical treatment hours. Partial interval data were collected in which the day was broken into 3 min intervals. No differential consequences were provided for the occurrence or the absence of scripting.

Intervention

Intervention included the use of DRO procedure in which prior to the start of each 3 min interval, the staff member presented a rule sheet to KS and read the rules to her aloud.(i.e., "Remember, KS, if you use whole words, you get time on the iPad"). Following this review, the staff member started a timer for the corresponding interval length. Within each interval, regularly scheduled programming occurred with the staff member.

If scripting occurred at any point during the interval, the staff member stopped the timer, showed KS the rule sheet, and provided the statement, "You did not use whole words. You do not get a turn on the iPad." Next, a rule review occurred again, and a new interval began. If scripting did not occur at any point during the interval, the staff member instructed KS by saying, "Great job! You followed your rules. You used whole words. You get a turn on the iPad," and presented access to the iPad for 2 min. After 2 min had elapsed, KS was allowed to ask for more time, in which she was given an additional 1 min with the iPad before it was removed, and a new interval began. During a turn on her iPad, KS was allowed to engage in scripting behavior, as

research has shown that restricted access to scripting as part of reinforcement can lead to decreases in the level of engagement (Potter et al., 2013).

If scripting did not occur across 30, 3-min intervals, the intervals increased by 2 min (i.e., 5-min intervals). Intervals continued to increase once 30 consecutive intervals were reached in the absence of scripting (i.e., 7 min, 12 min, 17 min). Once 30 intervals at the maximum interval length occurred in the absence of scripting, the intervention was removed, and there was a return to the baseline phase. Return to baseline was conducted for 3 days before there was a return to intervention.

Preference Assessments

Items delivered as reinforcers were selected based on highly preferred items that the participant typically engaged with based on observation and report from the clinical team and parents. Due to a time constraint prior to the onset of experimental conditions, a formal preference assessment was not conducted until the return to baseline phase. During the return to baseline phase, a multiple stimulus without replacement (MSWO) preference assessment (see Figure 2; Resetar & Noell, 2008) was conducted to determine the relative preference of five known reinforcers (i.e., pretzels, puzzles, iPad video, iPad game and a small push pop fidget toy). All items were counterbalanced in their presentation.

The MSWO preference assessment was conducted over the course of 1 day and consisted of five total trials. When a trial began, five items were set in front of KS on the desk, and the experimenter asked, “Which one do you want?” Once KS selected an item, the other items were removed, and she was given 30 s to engage with the selected item. After 30 s, that item was removed, and the four previously non-selected items were presented in front of KS, and the experimenter again asked, “Which one do you want?” Again, KS was given 30 s to engage with

the selected item before it was removed, and she was presented with the three remaining items. This continued until all items were selected. This process was considered one trial and a total of five trials were conducted throughout the school day. However, the items selected and scored as highest preferred did not correspond with what KS spent the most duration with when given a free choice in the natural environment. Because of this discrepancy, a single-stimulus preference assessment was conducted the following day.

The single stimulus preference assessment (Ortiz & Carr, 2000) was conducted over the course of 1 day (see Figure 3). KS was given free access to each of the same five items used in the MSWO preference assessment. She was given each item one at a time, and it was recorded how long she engaged with the item. If KS did not engage with the item after 10 s, the timer was stopped, and the time spent with the item was recorded.

Experimental Design

This study employed an ABAB design. This design decreased the possibility of other factors contributing to behavior reduction outside of the intervention. The ABAB design is the most straightforward and generally most powerful within-subject design for demonstrating a strong functional relation between an environmental manipulation and a behavior (Cooper et al., 2020).

Interobserver Agreement (IOA) and Treatment Integrity (TI)

Interval-by-interval interobserver agreement (IOA) data were collected across 50% of all trials and conditions by a secondary observer. The number of intervals in which an agreement occurred was divided by the total number of intervals (Cooper et al., 2020). IOA averaged 82% (range, 77-92%). Treatment integrity (TI) data were collected during the intervention phase to ensure proper delivery of the intervention. This was collected for 50% of all trials and was

collected via in-person data collection (see Figure 4) and by watching recorded video of intervention sessions. TI was calculated by dividing the number of correctly implemented intervention trials by the total number of trials and multiplying by 100 to obtain a percentage. TI averaged 76% (range, 61-90%).

Social Validity

Prior to baseline data collection, KS's parents initially expressed concern that limiting vocalizations through the DRO procedure could lead to a decrease in vocalizations used for communication in general. This aligns with previous research that warns clinicians to be cautious not to extinguish or punish other types of vocalizations (e.g., appropriate requests) when reducing vocal stereotypy (Lanovaz & Sladeczek, 2012). This socially valid concern was taken into account and is why only non-word repetitive vocalizations were targeted.

Social validity was measured in the form of a survey that was completed at the end of data collection (see Figure 5). Parents were asked a series of four questions relating to KS's scripting to determine if the problem behavior was one that was socially significant to change and if they found the procedure and results to be important and acceptable.

Results

Figure 6 shows the results of the MSWO preference assessment. Although the results showed that two items were selected first, indicating they were the highest preferred, KS did not engage with those items for the full 30 s. Figure 7 shows the results of the single-stimulus preference assessment. The iPad show was ranked as highest preferred and was utilized as contingent reinforcement during the remainder of the intervention phase.

Figure 8 shows the percentage of intervals containing vocal scripting across conditions. During baseline, scripting occurred on average 70.25% of intervals (range, 60-92%). During

intervention, scripting occurred on average 62% of intervals (range, 19-83%). During the initial implementation of the intervention, it was determined that there was a TI issue with a staff member incorrectly implementing the protocol and thus, they were retrained on the intervention. Prior to re-training staff, scripting occurred on average 69% of intervals (range, 83-54%) and following re-training scripting occurred on average 51% of intervals (range, 19-74%). During the return to baseline phase, scripting occurred on average 72.5% of intervals (range, 72-73%). During the return to intervention phase, scripting occurred at an average of 56% of intervals (range, 46-62%). Significant dates during the intervention phase included March 11th, when staff were retrained and March 21st to 25th, when only one other classmate was present with KS due to spring break.

Figure 9 shows the results of the social validity survey. The results showed that scripting was considered a top priority for reduction but not the most important, that scripting had occurred for the previous 2-3 years, that a reduction in scripting was observed following the intervention, and that the intervention was considered helpful.

Discussion

The purpose of this study was to examine the effectiveness of a DRO procedure to reduce the problem behavior of vocal scripting for a 13-year-old female student with autism. Vocal scripting is often targeted as a behavior for reduction for individuals with autism, as it has been shown to interfere with the development of appropriate speech and conversation skills (Joung, 2011; Koegel & Covert, 1972; Ross, 2002). High levels of repetitive vocalizations could also be problematic because the behavior may interfere considerably with learning and social inclusion such as the participant in this study (Lanovaz & Sladeczek, 2012).

Overall, these results showed a slight decrease in vocal scripting from baseline to intervention, which was replicated during a return to baseline and return to intervention phase. Additionally, after a TI issue was identified following the first 10 days of intervention and the corresponding staff member was retrained, scripting reduced further. It should be noted that from March 21st through March 25th, KS was in a classroom with one other classmate due to spring break, whereas her typical programming occurs with six other peers. Scripting on these 5 days were significantly lower. It is possible that the noise from other peers in the classroom served as a motivating operation which increased the value of automatic reinforcement produced from vocal scripting and thus increased the behavior of scripting itself. Future research should explore this possibility.

Although a reduction in vocal scripting was demonstrated, the results did not demonstrate a significant reduction. Time constraint and lack of necessary staff members were limitations to this study. Previous research has suggested that DRO schedules can be difficult to implement, due to the undivided attention of a trainer, and therefore difficult to apply under dense schedules (Lanovaz & Sladeczek, 2012; Rozenblat et al., 2009). Future researchers should consider having at least two staff assigned to the client when implementing the DRO procedure; whereas one staff member could implement the DRO, while the other staff member could continue regularly scheduled programming.

Another limitation of this study was the length of intervals selected for the DRO schedule. Although 3-min intervals were selected based on the frequency of scripting prior to the onset of the procedures, previous research has typically used much shorter intervals, as short as 3-10 s (e.g., Lanovaz & Sladeczek, 2012; Rozenblat et al., 2009). Thus, it is unclear if shorter

intervals would have influenced the results of the current study and future research should explore this possibility.

Further, because the participant did not reach mastery criteria for the 3-min schedule, the length of the DRO interval was not thinned. It is a possibility that the mastery criteria were set at too high of a level or that a different fading protocol would have been better suited for this study. For example, Rapp et al. (2017) thinned the DRO schedule following five successful consecutive trials. Trials were thinned quickly, with one client moving from 5 s intervals to intervals lasting several hours. There were approximately eight subphases, and early ones were doubled (i.e., the 30 s subphase was doubled and the next trial was 60 s), or with later subphases, 60 s was added (Rapp et al., 2017). Future research should address the fading protocol to determine its impact on results.

Additionally, due to time constraints, the contingent reinforcer was chosen based on its frequent engagement prior to the study and preference assessments were not conducted until the return to baseline phase. Future researchers should conduct a preference assessment prior to baseline data collection to ensure a strong motivation operation for the reinforcer delivered within the DRO schedule. Finally, generalization and maintenance data were not taken, and it is unclear if the current results would generalize to other participants.

In summary, DRO as conducted in the current study was successful in a small reduction of scripting. Although this procedure has limitations, it is predicted that increased staff members, a preference assessment conducted prior to data collection and a more rapid thinning schedule may further decrease scripting.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>
- Behavior Analyst Certification Board. (2020). *Ethics code for behavior analysts*. <http://bacb.com/wp-content/ethics-code-for-behavior-analysts/>
- Butler, C., Kobylarz, A., Zaki-Scarpa, C., LaRue, R. H., Manente, C., & Kahng, S. (2021). Differential reinforcement to decrease stereotypy exhibited by an adult with autism spectrum disorder. *Behavioral Interventions*, *36*(1), 261-270. <https://doi.org/10.1002/bin.1760>
- Cooper, J., Heron, T., & Heward, W. (2020). *Applied behavior analysis*. (3rd ed.). Pearson.
- Cunningham, A. B., & Schreibman, L. (2008). Stereotypy in autism: The importance of function. *Research in Autism Spectrum Disorders*, *2*(3), 469-479. <https://doi.org/10.1016/j.rasd.2007.09.006>
- Daddario, R., Anhalt, K., & Barto, L. E. (2007). Differential reinforcement of other behavior applied classwide in a child care setting. *International Journal of Behavioral Consultation and Therapy*, *3*(3), 342-348. <http://dx.doi.org/10.1037/h0100810>
- DeRosa, N. M., Novak, M. D., Morley, A. J., & Roane, H. S. (2019). Comparing response blocking and response interruption/redirection on levels of motor stereotypy: Effects of data analysis procedures. *Journal of Applied Behavior Analysis*, *52*(4), 1021-1033. <http://doi.org/10.1002/jaba.644>
- Fine, J., Bartolucci, G., & Szatmari, P. (1994). Cohesive discourse in pervasive developmental disorders. *Journal of Autism and Developmental Disorders*, *24*(3), 315-329. <https://doi.org/10.1007/BF02172230>

- Joung, E. G. (2011). *The effects of response interruption and redirection on vocal stereotypy* (Publication No. 7643331) [Doctoral dissertation, University of Kansas]. Education Dissertations and Theses.
- Kim, H. Y. (2012). *The use of differential reinforcement of other behavior (DRO) to reduce scripting in a child with autism* (Publication No. 1539953) [Doctoral dissertation, Kaplan University]. ProQuest Dissertations and Theses Global.
- Koegel, R. L., & Covert, A. (1972). The relationship of self-stimulation to learning in autistic children. *Journal of Applied Behavior Analysis*, 5(4), 381-387.
<https://doi.org/10.1901/jaba.1972.5-381>
- Lanovaz, M. J., & Sladeczek, I. E. (2012). Vocal stereotypy in individuals with autism spectrum disorders: A review of behavioral interventions. *Behavior Modifications*, 36(2), 146-164.
<http://doi.org/10.1177/0145445511427192>
- Neidert, P. L., Iwata, B. A., Dempsey, C. M., & Thomason-Sassi, J. L. (2013). Latency of response during the functional analysis of elopement. *Journal of Applied Behavior Analysis*, 46(1), 312-316. <https://doi.org/10.1002/jaba.11>
- Ortiz, K. R., & Carr, J. E. (2000). Multiple-stimulus preference assessments: A comparison of free-operant and restricted-operant formats. *Behavioral Interventions*, 15(4), 345-353.
[http://doi.org/10.1002/1099-078X\(200010/12\)](http://doi.org/10.1002/1099-078X(200010/12))
- Potter, J. N., Hanley, G. P., Augustine, M., Clay, C. J., & Phelps, M. C. (2013). Treating stereotypy in adolescents diagnosed with autism by refining the tactic of “using stereotypy as reinforcement.” *Journal of Applied Behavior Analysis*, 46(2), 407-423.
<http://doi.org/10.1002/jaba.52>

Rapp, J. T., Cook, J. L., McHugh, C., & Mann, K. R. (2017). Decreasing stereotypy using NCR and DRO with functionally matched stimulation: Effects on targeted and non-targeted stereotypy. *Behavior Modification*, *41*(1), 45-83. <http://doi.org/10.1177/0145445516652370>

Raulston, T. J., Hansen, S. G., Machalicek, W., McIntyre, L. L., & Carnett, A. (2019).

Interventions for repetitive behavior in young children with autism: A survey of behavioral practice. *Journal of Autism and Developmental Disorders*, *49*(8), 3047-3059.

<https://doi.org/10.1007/s10803-019-04023-y>

Resetar, J. L., & Noell, G. H. (2008). Evaluating preference assessments for use in general education population. *Journal of Applied Behavior Analysis*, *41*(3), 447-451.

<http://doi.org/10.1901/jaba.2008>

Ross, D. E. (2002). Replacing faulty conversational exchanges for children with autism by establishing a functionally equivalent alternative response. *Education and Training in Mental Retardation and Developmental Disabilities*, *37*(4), 343-362.

<http://www.jstor.org/stable/23880069>


Rozenblat, E., Brown, J. L., Brown, A. K., Reeve, S. A., & Reeve, K. F. (2009). Effects of adjusting DRO schedules on the reduction of stereotypic vocalizations with children with autism. *Behavioral Interventions*, *24*(1), 1-15. <http://doi.org/10.1002/bin/270>

Silla-Zaleski, V. A., & Vesloski, M. J. (2010). Using DRO, behavioral momentum, and self-regulation to reduce scripting by an adolescent with autism. *The Journal of Speech and Language Pathology – Applied Behavior Analysis*, *5*(1), 80-87.

<http://dx.doi.org/10.1037/h0100264>


Figure 1

Differential Reinforcement of Other Behavior (DRO) Rules Page




While Timer is Running:

You Can:




- Whistle
- Hum
- Gain our Attention by asking
- Use whole words to talk


You Can't:



- Use letters sounds that are not words
- Say: AH
- Say: OOO
- Say: EEE



During Tablet time:



You may make any sound you want!

Figure 2

MSWO Preference Assessment Data Sheet

Date:		
Child name:		
Teacher name:		
Trial #	Item selected	Placement of item selected
1		x x x x x
2		x x x x
3		x x x
4		x x
5		x

Date:		
Child name:		
Teacher name:		
Trial #	Item selected	Placement of item selected
1		x x x x x
2		x x x x
3		x x x
4		x x
5		x

Date:		
Child name:		
Teacher name:		
Trial #	Item selected	Placement of item selected
1		x x x x x
2		x x x x
3		x x x
4		x x
5		x

Date:		
Child name:		
Teacher name:		
Trial #	Item selected	Placement of item selected
1		x x x x x
2		x x x x
3		x x x
4		x x
5		x

Date:		
Child name:		
Teacher name:		
Trial #	Item selected	Placement of item selected
1		x x x x x
2		x x x x
3		x x x
4		x x
5		x

Highest preferred items (lowest summed trial #s):

Moderately preferred items (moderate summed trial #s):

Lowest preferred items (highest summed trial #s):

Figure 3

Single-Stimulus Preference Assessment Data Sheet



Free Operant Observation Log

Date:	Location:		Teacher:	Child:
Item/Activity	Approached	Did not approach	Engaged with	Duration of engagement
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s
				_____ min, _____ s

Highest preferred items (approached frequently, engaged with for longest durations):

Moderately preferred items (approached, engaged with for shortest durations):

Low preferred items (did not approach):

Figure 4

TI Data Collection Form

Integrity check

Implementation Strategies	YES	Sometimes	NO	Notes
Behavior specific praise provided when delivering reinforcement				
Engaged with positive interaction and attention when demonstrating appropriate behavior.				
Rule reviews at the beginning of intervals				
Rule review when the target behavior was exhibited				
Followed proper length of time on intervals				
Provided alternate reinforcement for completing tasks than for the DRO				
Took proper data on paper				
Provided DRO reinforcement breaks when earned, even if in an academic group				
Transitioned lunch coverage staff and ensured they knew how to run the DRO				
PERCENT INTEGRITY-	Points Earned	Total Points	Score	

Figure 5*Social Validity Survey***Feedback about Scripting Intervention**

1. How would you rate the importance of minimizing the behavior of scripting?

- The most important priority
- A top priority, but not the most important
- Not very important
- Not important at all

2. How long has she been engaging in the behavior of scripting prior to the intervention?

- 0-6 months
- 6 months to 1 year
- 1-2 years
- 2-3 years

Other (please specify)

3. Has there been a decrease in this behavior in the last month since implementing the intervention?

- Yes
- No, there has been an increase
- No, it has maintained the same frequency

4. Overall, have you found this intervention to be important/helpful?

- Yes
- No

Figure 6

MSWO Preference Assessment Results

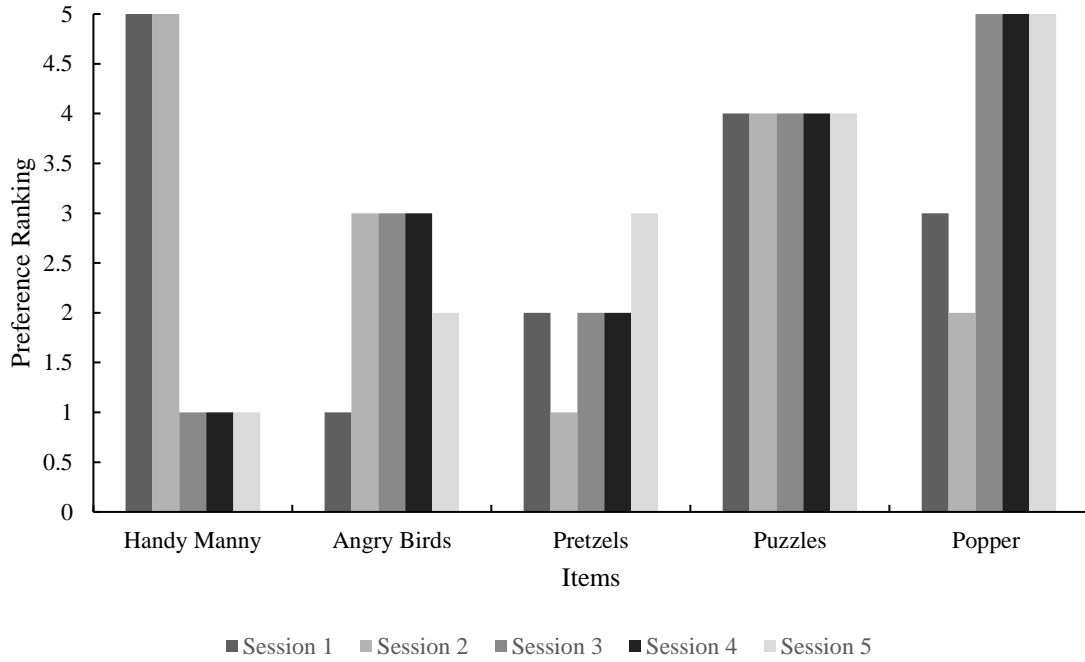


Figure 7

Single-Stimulus Preference Assessment Results

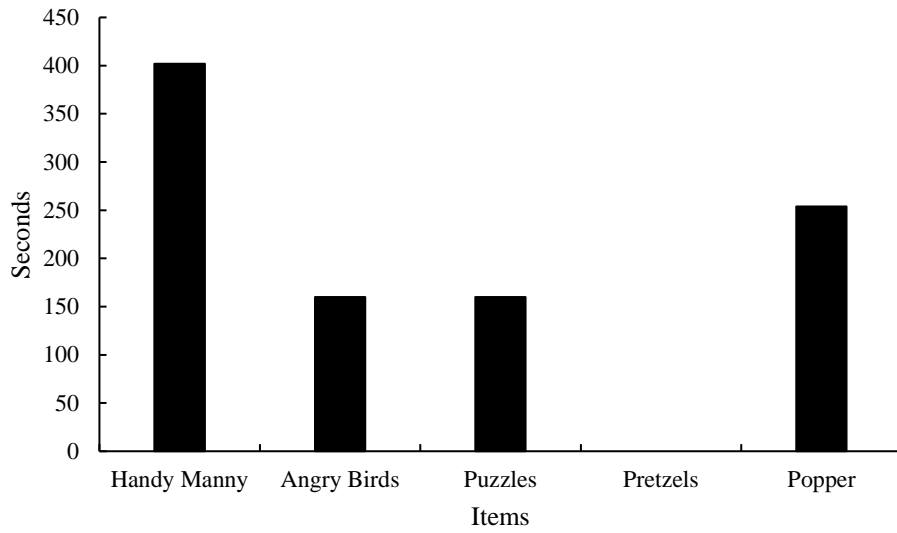


Figure 8
DRO Results

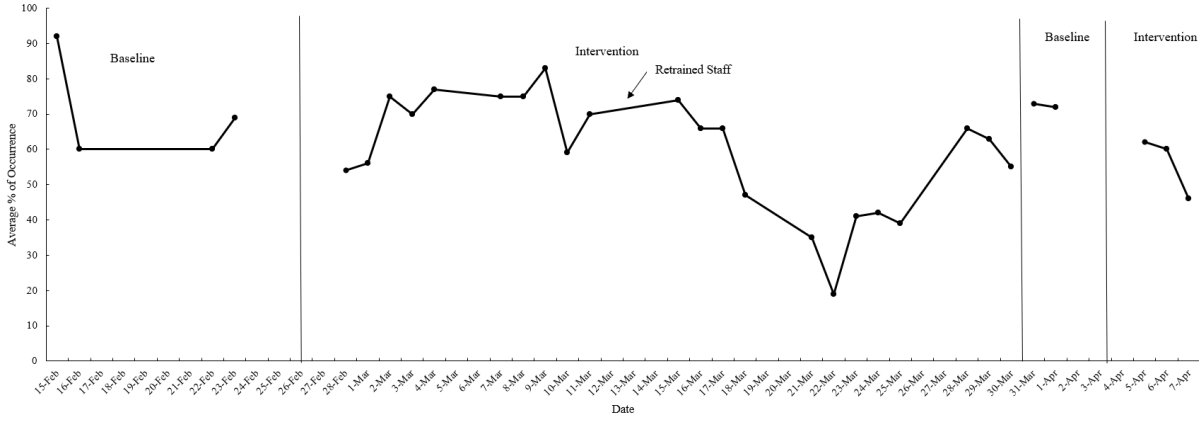
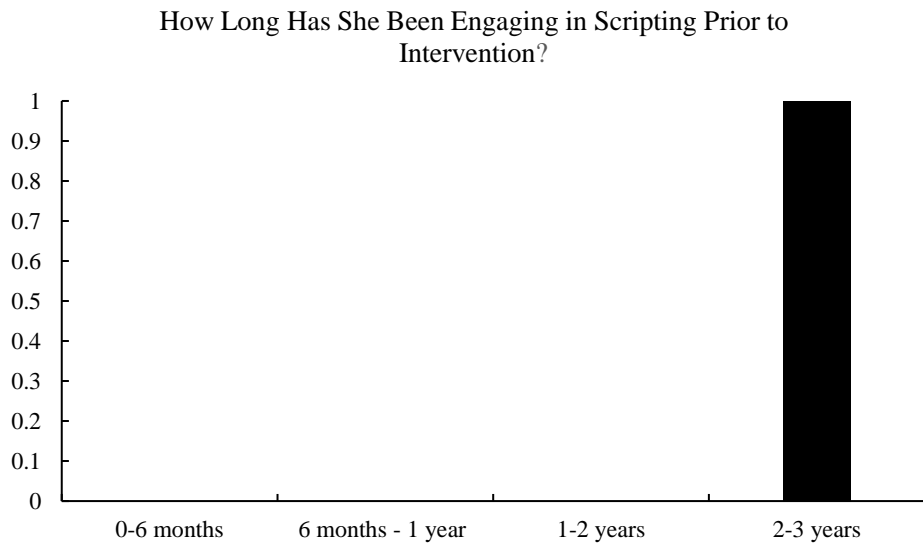
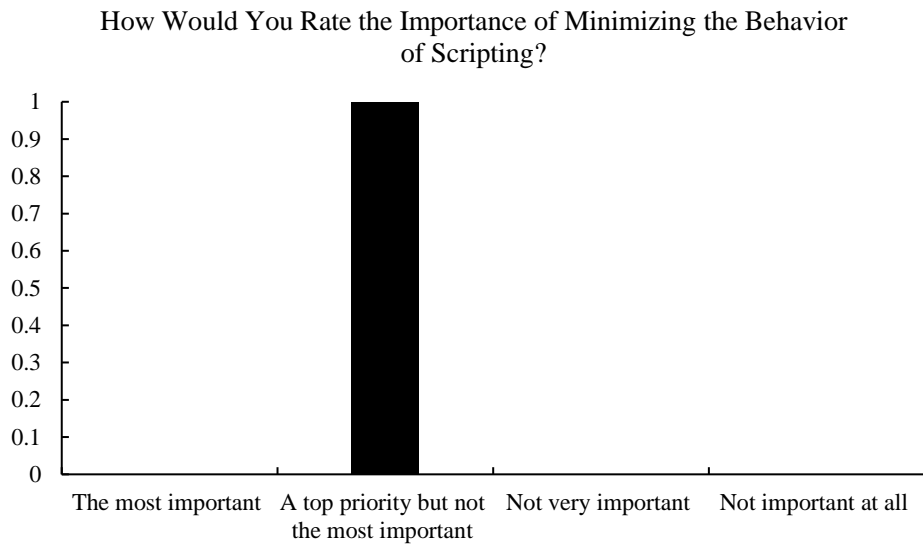
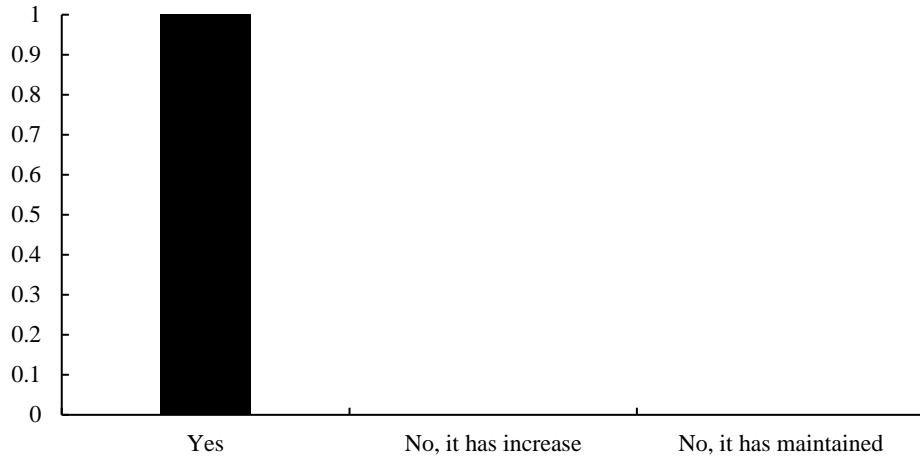


Figure 9

Social Validity Results



Has There Been a Decrease in this Behavior in the Last Month Since Implementing the Intervention?



Overall, Have You Found This Intervention to be Important or Helpful?

