



What do you hear? Teaching tacts of auditory stimuli

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Introduction

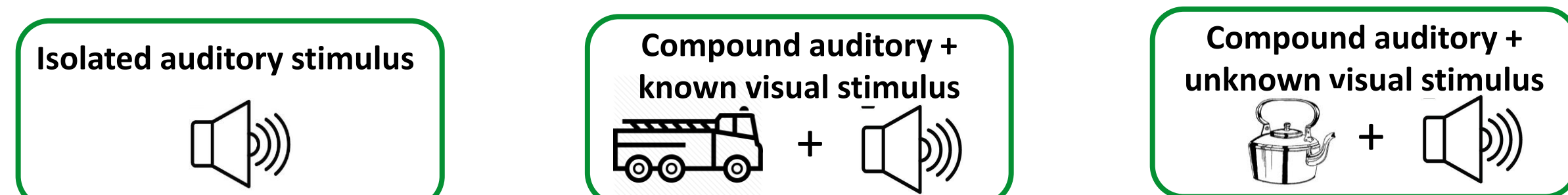
Verbal behavior intervention for children with autism spectrum disorder (ASD) often involves teaching tacts; however, interventions and applied research have disproportionately focused on teaching tacts of visual stimuli, despite recommendations that tacts of other sensory stimuli (e.g., sounds and smells) are important for children to communicate about and experience other aspects of their environment (Skinner, 1957; Sundberg & Partington, 1998).



Hanney, Carr, and LeBlanc (2019): evaluated the acquisition of auditory tacts across two stimulus-presentation arrangements: Isolated and Compound plus known visual stimulus. The compound condition was more effective for both participants, but additional training to remediate control by the visual rather than auditory stimulus was necessary for one participant.

Purpose: To replicate and extend Hanney, et al. (2019)

- Addition of compound auditory + unknown visual stimulus condition
- Stimulus control probes of auditory tacts with opposite stimulus presentation



Method

Participants:

- Two children with ASD
 - Kyle, 6-year-old male
 - Nick, 5-year-old male

Experimental Design:

- Adapted alternating treatments design within a concurrent multiple probe across sets

General Procedure:

1. Auditory and visual tact probes
2. Baseline
3. Intervention
4. Maintenance probes
5. Stimulus control probes

Dependent Variable:

- Correct, independent auditory tacts

Independent Variable:

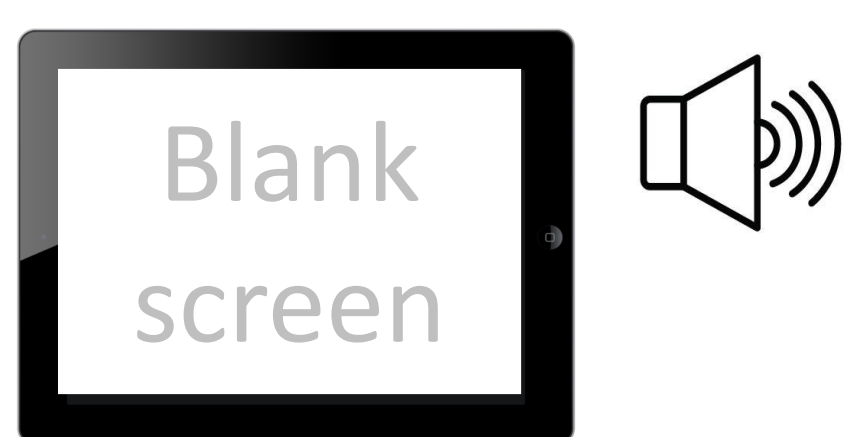
- Stimulus-presentation arrangement:
 - Isolated auditory stimulus
 - Compound auditory + Known Visual
 - Compound auditory + Unknown Visual

Setting & Materials:

- 1:1 Treatment room
- iPad and Bluetooth speaker

Isolated Training

(no visual)
 S^D: "What sound?"



Compound Training

(known or unknown visual)
 S^D: "What sound?"



Results

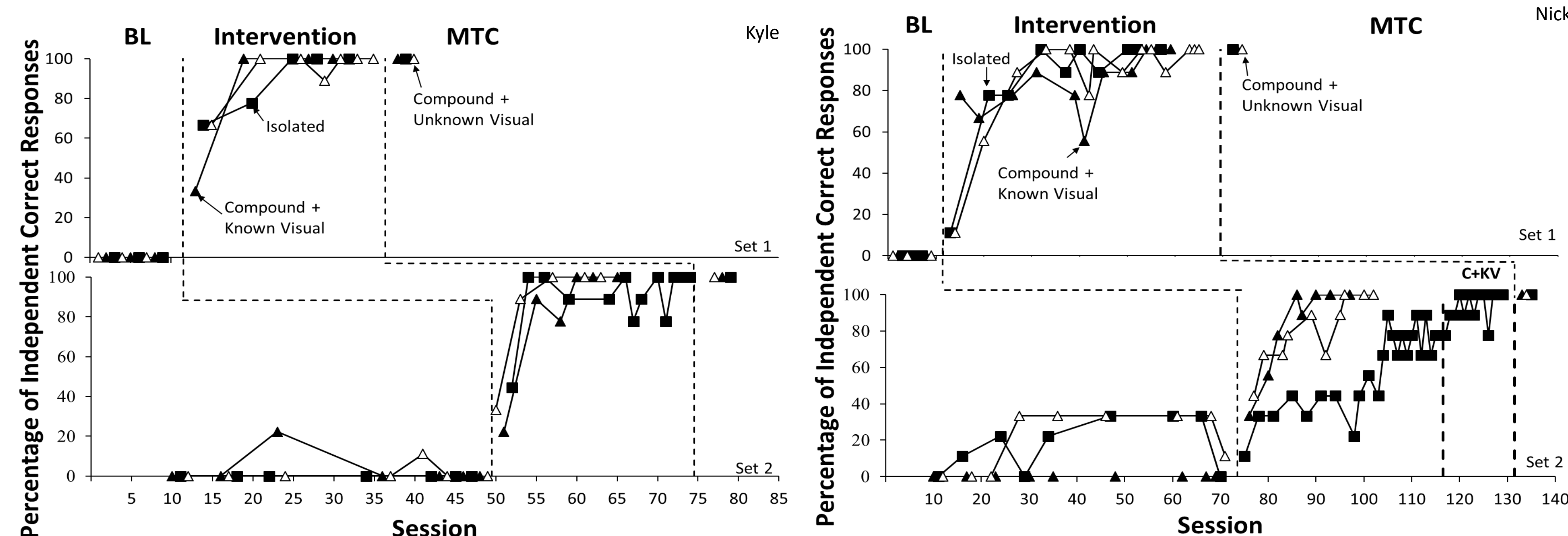


Figure 1. Percentage of independent correct responding for Kyle during training across all three conditions for stimuli sets one and two. MTC=maintenance

Figure 2. Percentage of independent correct responding for Nick during training across all three conditions for stimuli sets one and two. MTC=maintenance

Table 1

Stimulus Control Probes for Auditory Stimuli Assigned to Auditory Tact Conditions

Condition ^a	Kyle		Nick	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Isolated ^b	0/6	6/6	0/3 ^c	0/3 ^c
Compound auditory + known visual ^b	0/6	5/6	0/6	5/6
Compound auditory + unknown visual ^b	0/6	6/6	0/6	5/6

Note. This table presents the number of independent correct auditory tacts over the total number of trials across all three conditions during pre- and post-intervention stimulus control probes for participants, Kyle and Nick.

^a Condition labels reflect original condition names; however, stimuli were probed in opposite stimulus format (e.g., Isolated probed as compound with visual stimulus).

^b Results for stimulus sets 1 and 2 were combined.

^c Stimuli from set 2 were excluded due to exposure of the auditory stimulus with the visual stimulus after responding met the discontinuation criterion.

Discussion

- All three stimulus-presentation arrangements were efficacious with at least one set of stimuli for both participants, but the compound conditions were more likely to lead to skill mastery in fewer sessions.
- Post-mastery probes indicated some disruptions in responding in at least one compound condition for both participants, indicating that while compound teaching conditions may be more efficient, additional training may be necessary to ensure individuals can respond appropriately when auditory stimuli are and are not accompanied by visual stimuli.
- These data advance our understanding of how to teach auditory tacts, the sources of stimulus control that may be established with these different procedures, and stimulus features that may be necessary for acquisition of auditory tacts.

References

1. Hanney, N. M., Carr, J. E., & LeBlanc, L. A. (2019). Teaching children with autism spectrum disorder to tact auditory stimuli. *Journal of Applied Behavior Analysis*, 52, (3), 733-738. doi: 10.1002/jaba.605
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