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Effects of behavior-specific and general praise, on acquisition of tacts in children with pervasive developmental disorders

Colleen Stevens [a], Tina M. Sidener [a,*], Sharon A. Reeve [a], David W. Sidener [b]

[a] Caldwell College, United States
[b] Garden Academy, United States

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ABSTRACT

Although behavior-specific praise is commonly recommended for use in clinical and educational settings for individuals with autism, only one study was found that compared the effects of behavior-specific praise and general praise with individuals with developmental disabilities. The purpose of the current study was to evaluate the effects of behavior-specific and general praise on the acquisition, generalization, and maintenance of tacts in two children with autism. Results indicated negligible differences between tokens only, behavior-specific praise plus tokens, and general praise plus tokens conditions.

Praise has been incorporated into behavior analytic interventions since the inception of the field (McClannahan & Krantz, 2004). Educational and clinical programs have used praise alone or in combination with other putative reinforcers to facilitate skill acquisition in a variety of settings (e.g., Fuoco, Lawrence, & Vernon, 1988; McGee, Krantz, Mason, & McClannahan, 1983). A distinction between two types of praise statements has been drawn in the literature: *general praise*, a statement of approval that does not clearly state the specific behavior being praised (e.g., "good") and *behavior-specific* (*or behavior-descriptive*) *praise*, a statement of both approval and description of the specific behavior being praised (e.g., "good clapping") (Chalk & Bizo, 2004; McClannahan & Krantz, 2004). While behavior-specific praise is commonly recommended for use with individuals with disabilities (e.g., Sutherland, Wheby, & Copeland, 2000), only one study was found that directly compared effects of these two types of praise. Fueyo, Saudargas, and Bushell (1975) found that behavior-specific praise resulted in faster acquisition of swim strokes than general praise for four children with developmental disabilities. However, because correction statements were provided in the general praise condition but not the behavior-specific praise condition, it is unknown which variable produced the differences in acquisition observed. The purpose of the current study was to evaluate the effects of behavior-specific and general praise on the acquisition of tacts in two children with pervasive developmental disorders. Because praise is not typically delivered alone (i.e., without tangible reinforcers) in programs for children with autism, tokens were included during all conditions. That is, the effects of behavior-specific praise and general praise were evaluated in the context of a natural environment preparation.

1. Method

Participants were two boys: Alan (15 years, 8 months), diagnosed with autism and Joey (6 years, 6 months), diagnosed with pervasive developmental disorder, not otherwise specified. Alan and Joey demonstrated similar age equivalencies on

* Corresponding author at: Department of Applied Behavior Analysis, Caldwell College, 120 Bloomfield Avenue, Caldwell, NJ 07006, United States. Tel.: +1 973 618 3539; fax: +1 973 618 3443.
E-mail address: tsidener@caldwell.edu (T.M. Sidener).

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the *Peabody Picture Vocabulary Test-4* (Dunn & Dunn, 2007) (7:1, 6:6, respectively) and the *Expressive Vocabulary Test-2* (Williams, 2007) (6:8, 6:1, respectively). For at least 2 years prior to the study, educational programs for both participants included the delivery of tokens with praise. Neither had been exposed to programs that used only one type of praise statement.

Sessions were conducted approximately three times per day, 5 days per week, in a room in each participant's home and/or school. Trial-by-trial data were collected on correct target trials per session and summarized as percentage of correct target trials per session. A correct response was defined as the participant independently (i.e., without prompts) vocalizing the correct name of an object in a photograph within 6 s of the experimenter's instruction, "What is it?" The acquisition criterion for each skill was two consecutive sessions with 100% of target trials correct.

Each learner's applied behavior analysis program token board was used, consisting of 10 Velcro® dots to which tokens were affixed. The three highest-ranked items from a multiple stimulus without replacement preference assessment (DeLeon & Iwata, 1996) were used as back-up reinforcers for the token systems. Access to these items was limited to experimental sessions. At the bottom of each participant's token board was a space with a Velcro® dot to which a photograph of the selected back-up reinforcer was affixed prior to each session. Tokens were delivered by the experimenter placing a token on a Velcro® dot on the token board. When all 10 dots were filled, the participant was given access to the back-up reinforcer.

A multiple-probe design across participants with an adapted alternating treatments design within participants (Sindelar, Rosenberg, & Wilson, 1985) was used to compare the effects of behavior-specific praise with tokens, general praise with tokens, and tokens only. In each condition two different targets were taught at a time. Attempts to equalize conditions were made by selecting targets that were of similar difficulty, consulting with at least two other behavior analysts, and randomly assigning targets to each condition. Targets were selected in coordination with caregivers and teachers as those that (a) parents approved of, (b) participants had not previously learned, and (c) participants would not likely learn outside of the study; even so, Joey learned one target (i.e., avocado) during baseline. Targets in teaching sets one and two for each participant are presented in Table 1. Each session consisted of a total of 20 quasi-randomized trials consisting of 10 target trials (five different exemplars of each of two targets) interspersed with 10 trials of mastered items. Mastered items were 25 previously mastered tacts, and correct responses on these trials resulted in general praise only.

During baseline in all three conditions, tokens were delivered on a fixed-time schedule of 15 s. Incorrect responses resulted in a 6-s inter-trial interval and presentation of the next instruction. During the interventions, tacts were taught using a 2-s progressive time delay. A correct response resulted in the consequence specific to that condition. Incorrect responses resulted in a vocal model prompt, mastered tact trials, and re-presentation of the target trial. During *behavior-specific praise with tokens* sessions, correct responses for target trials resulted in a praise statement specific to the task (e.g., "You said *garlic*, that's right!") and a token. During *general praise plus tokens* sessions, correct responses for target trials resulted in a general praise statement (e.g., "You did it, that's right!") and a token. During *tokens only* sessions, correct responses for target trials resulted in a token only (i.e., no verbal consequence was provided). The instructor delivered all praise statements with a smile and with a tone and volume that indicated excitement. The wording and number of syllables were as similar as possible across the praise conditions so that the only difference between these conditions was the behavior-specific component. Pre- and post-test probes with novel stimuli were conducted under baseline conditions with five novel pictures of each of the two targets. Follow-up sessions were conducted after 1, 2, 4, and 6 weeks for Set 1 and 1 and 2 weeks for Set 2. Following the study, six teachers and parents completed a social validity questionnaire based on the Treatment Acceptability Rating Form-Revised (TARF-R; Reimers, Wacker, Cooper, & DeRaad, 1992).

Secondary data on the dependent variable were collected by an independent observer via video, and IOA was calculated using the formula agreements divided by agreements plus disagreements multiplied by 100. IOA for Alan was 100% and was collected during 46% of sessions. IOA for Joey was 100% and was collected during 100% of sessions. Data on correct implementation of procedures were collected trial-by-trial on correct presentation of instruction/materials, use of prompts, delivery of praise, and delivery of tokens as appropriate to that condition. For Alan, mean treatment integrity was 99.5% and was assessed during 55% of sessions. For Joey, mean treatment integrity was 96% and was assessed during 48.5% of sessions. IOA data on treatment integrity were collected during at least 33% of treatment integrity observations and was 100% for both participants. An additional treatment integrity assessment was conducted to determine the extent to which the

Table 1
Teaching sets for each participant.

	Alan		Joey	
	Set 1	Set 2	Set 1	Set 2
Tokens only	Aardvark	Turnip	Artichoke	Manatee
	Marmot	Pomegranate	Garlic	Ferret
Tokens + BSP	Ferret	Cauliflower	Loquat	Aardvark
	Hedgehog	Loquat	Turnip	Lemur
Tokens + GP	Mandrill	Artichoke	Cauliflower	Marmot
	Lemur	Avocado	Pomegranate	Mandrill

experimenter delivered praise and/or tokens with equal enthusiasm across all conditions. Two independent observers, blind to the purpose of the study, watched 22% of sessions, randomly selected across all conditions for both participants, and rated experimenter behaviors on a scale of 1 (did not happen at all), 2 (inconsistent performance) or 3 (fully consistent performance) (Cummings, 2005). The observer was asked about the experimenter's behavior in terms of sufficient volume, enthusiastic intonation, pleasant demeanor, and smiling during delivery of reinforcers. Observer 1 scored every session with a 3. For IOA, an agreement for a session was scored if all questions were rated the same by the primary and secondary data collector, and calculated by dividing the number of sessions scored as an agreement divided by the total number of treatment integrity sessions. IOA on this measure was 89%.

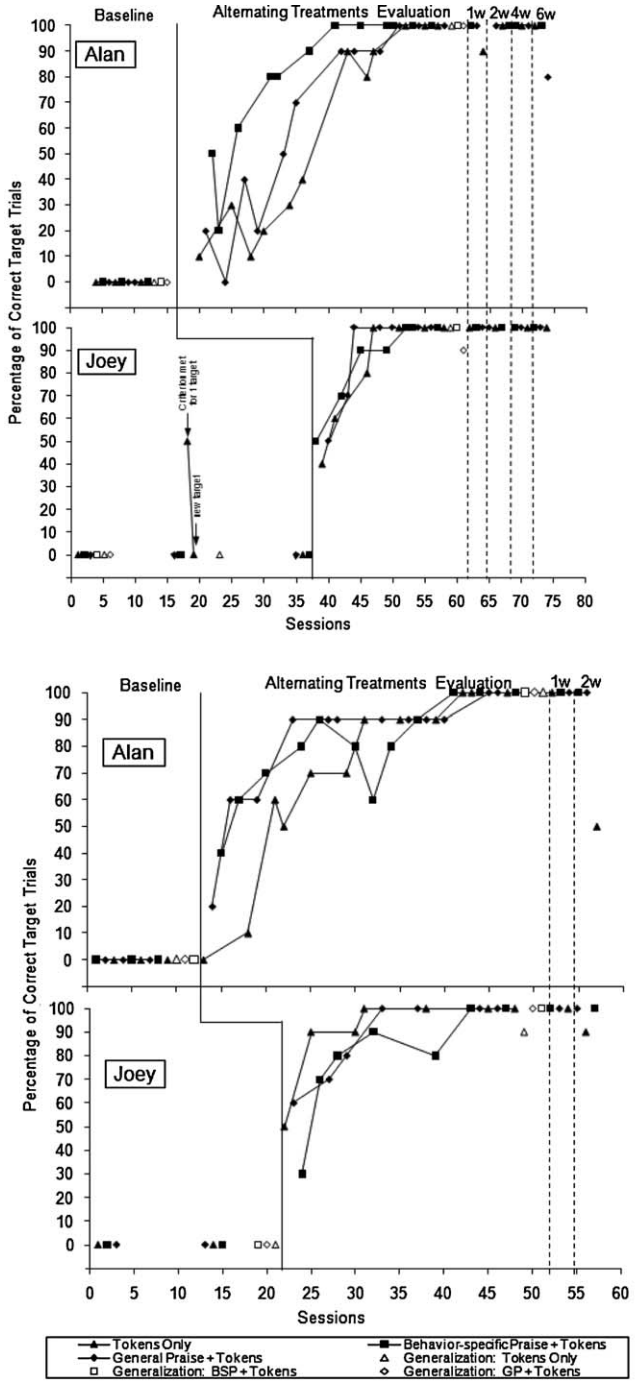

Fig. 1. Percentage of correct target responses per session for teaching set 1 (top graph) and teaching set 2 (bottom graph) for Alan and Joey.

2. Results and discussion

Data for each participant are depicted in Fig. 1, showing steady acquisition and negligible differences across conditions and teaching sets for both participants. For both participants, there was never more than a 3-session difference between conditions. In addition, both participants demonstrated high levels of correct responding in both conditions during generalization probes and follow-up probes. Social validity surveys showed a slight preference for behavior-specific praise ($M = 6.28$) over general praise ($M = 5.58$). This may be due to the frequent clinical recommendation to use behavior-specific praise and the widely held belief that behavior-specific praise is more effective than general praise.

There may be several reasons for the similar results obtained across conditions in the current study. First, it is possible that the two types of praise statements used were too similar to produce differential acquisition effects. However, the praise statements used in each condition appeared to be representative of those that are used clinically. Second, it is possible that neither type of praise functioned as a reinforcer. Although both participants had been exposed to years of pairing of praise and reinforcers, this pairing may not have resulted in the development of praise as a conditioned reinforcer (e.g., Lovaas et al., 1966). Future studies might include a reinforcer assessment of praise and/or include a praise-only condition. Third, it may be that differential effects of behavior-specific praise are only observed under certain conditions. In the current study, it was hypothesized that additional exposure to the model of the tact during the behavior-specific praise condition might produce faster acquisition. However, this effect may be more readily observed with learners who have less sophisticated language repertoires. It is also possible that differential effects of behavior-specific praise may be observed with different types of tasks such as receptive discrimination (e.g., responding to "touch the ball"), in which additional exposure to an auditory stimulus being programmed to function as a discriminative stimulus would be provided, or with complex tasks that do not involve a teacher instruction that specifies which behavior will be reinforced.

In conclusion, the results of this study with these specific conditions and participants do not support the common recommendation of using behavior-specific praise for the purpose of producing differentially rapid acquisition. However, behavior-specific praise may have other advantages such as facilitation of teacher training because it indicates to the trainer that the teacher has learned how to deliver reinforcers differentially in response to specific aspects of behavior (McClannahan & Krantz, 2004). For example, if a teacher says, "nice job" while walking next to a learner, the reason for delivery of this praise may be unclear. That is, the teacher may be responding to any number of learner behaviors (e.g., hands down, language, head orientation). If the teacher says, "nice job walking with your hands down," the trainer can identify what has evoked the praise of the teacher and determine if further training is needed. Further research is needed to provide empirical support for clinical recommendations about the use of behavior-specific praise.

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