*A COMPARISON OF GENERAL AND DESCRIPTIVE PRAISE IN
TEACHING INTRAVERBAL BEHAVIOR TO CHILDREN WITH AUTISM*

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Descriptive praise has been recommended widely as an important teaching tactic for children with autism, despite the absence of published supporting evidence. We compared the effects of descriptive and general praise on the acquisition and maintenance of intraverbal skills with 2 children with autism. The results showed slight advantages of descriptive praise in teaching efficiency in the majority of comparisons; however, these effects dissipated over time.

Key words: autism, behavior-specific praise, descriptive praise, intraverbals, praise, reinforcement, verbal behavior

The delivery of response-contingent praise is ubiquitous in behavioral instruction programs (e.g., Reinke, Lewis-Palmer, & Martin, 2007; Sutherland, Wehby, & Copeland, 2000). Praise generally is characterized as either descriptive or general (Brophy, 1981). *Descriptive* praise, also known as *behavior-specific* praise, identifies for the learner the behavior for which he or she is being praised (e.g., “Great job raising your hand!”), whereas *general* praise does not. Although recommendations for descriptive praise over general praise are prevalent in the autism treatment literature (e.g., Anderson, Taras, & Cannon, 1996; Leaf & McEachin, 1999), only one published study on the topic

exists. Stevens, Sidener, Reeve, and Sidener (2011) evaluated the effects of descriptive and general praise on the acquisition of tacts by two children with autism spectrum disorders and found comparable outcomes. However, the authors evaluated the effects of praise in conjunction with prompting and token reinforcement and did not directly evaluate the separate effects of praise. Given how frequently descriptive praise is recommended and the paucity of supportive empirical research on the topic, additional research is warranted. Thus, the purpose of the present investigation was to replicate and extend Stevens et al. by comparing the effects of descriptive and general praise, without supplementary reinforcement, on the acquisition of intraverbal behavior by two children with autism.

METHOD

Participants and Setting

Two boys who had been diagnosed with autism participated in the study: Shaun (3 years old) and Brad (4 years old). The children were recruited from an integrated preschool where the study was conducted. Both children were upper Level 2 learners (approximating typically

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Table 1
Intraverbal Skill Targets

Intraverbal skill area	Brad	Shaun
	Answering “What?” questions	Answering “What?” questions
Set 1	What do you: eat with? chew with? kick with?	What animal: barks? has feathers? has whiskers?
Set 2	What do you: clap with? blink with? taste with?	What animal: is pink? do you get milk from? eats hay?
Set 3	What do you: cook soup in? take a bath in? sweep the floor with?	What do you: see with? taste with? walk with?
Set 4	What do you: eat ice cream with? cut food with? eat food off of?	What do you: eat with? smile with? chew with?
Set 5	What animal: has feathers? do you get milk from? barks?	What do you: sweep the floor with? eat food off of? take a bath in?
Set 6	What animal: swims? purrs? has a curly tail?	What do you: cook soup in? cut food with? eat ice cream with?

developing 30-month-old children) in the areas of listener responding, echoics, and intraverbals on the Verbal Behavior Milestones Assessment and Placement Program (Sundberg, 2008). All sessions were conducted in a small therapy room, 3 to 5 days per week, with an experimenter, research assistant, and participant present. All instruction was delivered in a one-to-one format with the participant and experimenter seated at a table.

Response Measurement and Interobserver Agreement

Each session consisted of nine trials (three targets presented three times each), and multiple sessions were conducted during 30- to 60-min visits. The primary dependent measure was the percentage of correct trials during a nine-trial session. Each response was scored as correct, incorrect, or no response. A *correct response* was defined as the participant responding correctly and independently (without prompting) to the instruction within 5 s. All *incorrect* or *nonresponses* within 5 s resulted in

the presentation of a least-to-most prompting sequence (described below). The secondary dependent measure was the number of sessions to reach the acquisition criterion per target set, which was defined as three consecutive sessions at 89% correct or higher across two consecutive visits.

Interobserver agreement was assessed for at least 33% of sessions for each participant. To facilitate interobserver agreement assessment, sessions were video recorded and later scored by a second trained observer. These data were compared to the *in vivo* data collected by the experimenter who conducted the session. Agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying by 100. The resulting number was then converted to a percentage. An agreement was defined as the two independent observers recording the same response during each trial. The mean and range of agreement scores for each participant were as follows: Shaun, 100%; Brad, 97% (range, 85% to 100%).

Design

An adapted alternating treatments design (Sindelar, Rosenberg, & Wilson, 1985) embedded within a concurrent multiple baseline design (for within-participant replication) was used to assess the effects of general and specific praise on skill acquisition. Target skill sets were equated for syllable length (see Table 1), and each skill set was taught using either general or descriptive praise in addition to least-to-most prompting.

Procedure

General session structure. Each session assessed performance on one target skill set. Between sessions, participants were provided a 1-min break during which they had access to moderately preferred items identified by a brief multiple-stimulus without replacement preference assessment (Carr, Nicolson, & Higbee, 2000) conducted prior to experimental visits. After the break, another session was conducted

for the same or a different target set. To prevent reinforcement of chained responses, the order of presentation of the target sets (and of the targets within each set) was determined quasi-randomly.

Baseline. During baseline trials, an instruction (a verbal discriminative stimulus [S^D]) was provided followed by 5 s. Regardless of the participant's response, the experimenter then provided a neutral verbal redirection (not a praise statement) to the next trial (e.g., "Let's move on").

Prompting plus praise. Trials were conducted in the same manner as baseline except for the programmed consequences that followed the participant's response. The consequence for correct responding (provided immediately) or prompted responding (provided after prompting and error correction) consisted of a moderately enthusiastic praise statement. General praise consisted of a two-word statement unrelated to the target response, such as "Good job!" or "Great job!" Descriptive praise consisted of a four-word statement related to the target response that described (tacted) what the participant did correctly, such as "Great job saying 'cow'!" If in either praise condition a participant responded incorrectly or failed to respond in 5 s, the experimenter re-presented the S^D in conjunction with a partial-word verbal prompt in which part of the correct word was provided (e.g., saying "c" for cow). If the participant did not respond within 5 s after the partial-word prompt, the experimenter re-presented the S^D in conjunction with a full-word verbal prompt (e.g., "cow"). Differential reinforcement was embedded in this least-to-most prompting procedure in which correct responses given after the partial-word prompt resulted in the same general or descriptive praise statement mentioned above. Correct responses after full-word prompts resulted in no programmed consequence and the start of the next trial. Sessions continued until each target set met the acquisition criterion.

Prompting plus neutral statement (Brad only).

In the event that target sets were acquired without a clear difference between descriptive or general praise for the first two comparisons (i.e., within two sessions of each other), an additional phase was implemented for the third comparison to test whether praise itself was necessary for skill acquisition. Sessions were conducted in the same manner as in the prompting plus praise condition, except that the consequence delivered contingent on correct responding was a neutral statement, such as "Let's move on." In addition, the differential reinforcement component included the neutral statement for independent correct responses and correct responses after the partial-word prompt. For responses given after the full-word prompt, nothing was said and the trial ended.

Follow-up assessment. Follow-up assessments were conducted 3 to 4 weeks after each participant's completion of the study (by meeting acquisition criteria for all sets). Procedures were identical to baseline except that each target in the set was presented only once (i.e., sessions consisted of three trials).

Procedural Integrity

A second trained observer recorded or rated the following experimenter behaviors during praise conditions: (a) type of praise delivered, (b) enthusiasm of praise (to assess consistent, moderate enthusiasm), and (c) delivery of instructions and prompts. Procedural integrity was assessed for at least 33% of treatment evaluation sessions for each participant. The procedural integrity score was calculated as the percentage of correct responses made by the experimenter during a session (out of a total of 46 possible responses). The mean and range of integrity scores in each participant's evaluation were as follows: Shaun, 100%, and Brad, 99% (range, 95% to 100%). Point-by-point inter-observer agreement was assessed during all integrity data-collection sessions and averaged at least 98% for each participant.

Figure 1. Percentage of correct responses during baseline, treatment, and follow-up conditions for Shaun.

RESULTS AND DISCUSSION

The percentage of correct intraverbals emitted by Shaun is depicted in Figure 1. Shaun

never responded correctly during baseline. In the first praise comparison (top), responding reached the acquisition criterion in the same number of sessions (17); however, only descrip-

Figure 2. Percentage of correct responses during baseline, treatment, and follow-up conditions for Brad. No praise was provided during the prompting plus neutral statement condition.

tive praise resulted in strong maintenance of skills at follow-up (100% correct for Set 2 [descriptive] vs. 33% for Set 1 [general]). In the second comparison (middle), his rate of acquisition was faster with descriptive praise (Set 4 in 12 sessions) than general praise (Set 3 in 20 sessions) but both interventions resulted in high performance at follow-up (88% and 100% correct for Sets 3 and 4, respectively). In the third comparison (bottom), performance was similar across praise conditions. His responding met the acquisition criteria in 13 sessions with descriptive praise (Set 6) and 16 sessions with general praise (Set 5), and his performance at follow-up was maintained at acquisition level (88%) for both conditions.

The percentage of correct intraverbals emitted by Brad during the treatment evaluation is shown in Figure 2. Brad never responded correctly during baseline. In the first praise comparison (top), he acquired Set 1 in 10 sessions with general praise and Set 2 in eight sessions with descriptive praise. This finding was replicated (middle) with acquisition obtained within eight sessions with general praise (Set 3) and six sessions with descriptive praise (Set 4). Follow-up data showed that his acquisition of skills in Sets 1, 2, and 3 maintained at 100% correct, whereas performance on Set 4 decreased to 66% under descriptive praise. The bottom panel shows Brad's acquisition of the skills in Sets 5 and 6 under the prompting plus neutral statement intervention, which produced acquisition for both sets, with maintenance at 100% for both sets during the follow-up evaluation. He acquired Set 5 in 14 sessions and Set 6 in 23 sessions, which was much slower than his performance in Sets 1 through 4 when praise was provided for correct responding. Thus, although this condition demonstrated that skill acquisition was possible with prompts and differential consequences (but no praise), the difference in efficiency between Sets 1 through 4 and Sets 5 and 6 does suggest that contingent praise facilitated learning for Brad.

The results of the present study extend research on the use of descriptive praise when teaching skills to young children with autism. Descriptive praise produced acquisition more quickly than general praise in four of the five comparisons (three for Shaun and two for Brad), with a session savings ranging from two to eight sessions. However, most differences were minimal and did not translate into better maintenance at follow-up. In fact, of the four comparisons with quicker acquisition under descriptive praise, only one resulted in better maintenance.

Future research should investigate the conditions under which descriptive praise could be potentially more advantageous than general praise. For example, descriptive praise might be most effective with children for whom praise has been established as a reinforcer, warranting the inclusion of reinforcer assessments in future investigations of praise. It is also possible that a stronger verbal (e.g., listener or tact) repertoire is necessary to reap the benefits of descriptive praise.

The results of the present study should be evaluated in the context of at least two limitations. An extraneous variable could have affected Brad's skill acquisition during the prompting plus neutral statement condition because this phase was not replicated within or across participants. In addition, it is possible that the skills targeted for the study were not equated perfectly for difficulty as planned. For example, Brad mastered Set 5 more quickly than Set 6 even though the interventions were the same for both sets. Thus, the minor differences observed in the majority of treatment comparisons might not have been a function of the type of praise, further attenuating the minor efficiency gains associated with descriptive praise.

Overall, the findings of the present study are consistent with Stevens *et al.* (2011), who failed to identify reliable and sizable effects of descriptive over general praise. Thus, it appears that the numerous recommendations that favor

descriptive over general praise in autism treatment (e.g., Anderson et al., 1996; Leaf & McEachin, 1999) are not supported yet.

REFERENCES

- Anderson, S. R., Taras, M., & Cannon, B. O. (1996). Teaching new skills to young children with autism. In C. Maurice, G. Green, & S. C. Luce (Eds.), *Behavioral intervention for young children with autism: A manual for parents and professionals* (pp. 181–194). Austin, TX: Pro-Ed.
- Brophy, J. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, 51, 5–32.
- Carr, J. E., Nicolson, A. C., & Higbee, T. S. (2000). Evaluation of a brief multiple-stimulus preference assessment in a naturalistic context. *Journal of Applied Behavior Analysis*, 33, 353–357.
- Leaf, R., & McEachin, J. (Eds.). (1999). *A work in progress: Behavior management strategies and a curriculum for intensive behavioral treatment of autism*. New York, NY: DRL Books.
- Reinke, W. M., Lewis-Palmer, T., & Martin, E. (2007). The effect of visual performance feedback on teacher use of behavior-specific praise. *Behavior Modification*, 31, 247–263.
- Sindelar, P. T., Rosenberg, M. S., & Wilson, R. J. (1985). An adapted alternating treatment design for instructional research. *Education and Treatment of Children*, 8, 67–76.
- Stevens, C., Sidener, T. M., Reeve, S. A., & Sidener, D. W. (2011). Effects of behavior-specific and general praise on acquisition of tacts in children with pervasive developmental disorders. *Research in Autism Spectrum Disorders*, 5, 666–669.
- Sundberg, M. L. (2008). *VB-MAPP: Verbal behavior milestones assessment and placement program*. Concord, CA: AVB Press.
- Sutherland, K. S., Wehby, J. H., & Copeland, S. R. (2000). Effect of varying rates of behavior-specific praise on the on-task behavior of students with EBD. *Journal of Emotional and Behavioral Disorders*, 8, 2–8.

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