

An Evaluation of the Effectiveness of Content and Quality of Praise as a Reinforcer for Skill
Acquisition in Children with and without Developmental Delays

Gena O. Pacitto

A Dissertation Submitted to the Faculty of
The Chicago School of Professional Psychology
In Partial Fulfillment of the Requirements
For the Degree of Doctor of Philosophy in Applied Behavior Analysis

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Abstract

Praise, a form of attention that indicates approval can be used in multiple settings to increase appropriate behavior. Praise is a nonintrusive and relatively simple intervention technique that is often more socially acceptable when compared to other procedures such as the delivery of edible items. There are variables which may affect the efficacy of praise as a reinforcer, including content and quality of praise (i.e., general praise & behavior specific praise; neutral & enthusiastic praise). Although there is research examining the effectiveness of various forms of praise, the social validity of the procedures has not been evaluated to the same extent. The current study replicated and extended previous research by a) conducting a descriptive analysis of praise statements within general and special education classrooms, b) evaluating the effects of the quality and content of praise in children diagnosed with developmental disabilities and typically developing children, and c) extending the social validity of praise by evaluating the participants' preference and measuring teachers' and parents' acceptability of the different praise procedures. Results were that, all subjects acquired more targets during praise conditions but there were idiosyncratic patterns across conditions for each participant. Social validity measures showed differentiation of preference for two of the three participants, and parents and teachers stated clear preferences based on the quality of praise.

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Chapter 1

Attention has been shown in the literature to be a powerful reinforcer for both desired behavior and problem behavior (Beavers, Iwata, & Lerman, 2013). Individuals may respond differently to varying types of attention, including praise (Kodak, Northup, & Kelley, 2007). Praise is a form of attention that, by definition, indicates approval (Lerman, Hawkins, Hillman, Shiremen, & Nissen, 2015). Praise, when presented appropriately in the classroom context, can be an effective type of attention that promotes motivation and the acquisition of appropriate behavior (Bayat, 2011; Dweck, 1999, 2009; Weissbourd, 2009a).

Praise is both simple and nonintrusive and can be implemented across various grade levels and populations (Jenkins, Floress, & Reinke, 2015). Some other advantages of using praise as a reinforcer are that it does not involve providing food as a reinforcer and it does not interrupt academic tasks. Praise is also considered a more socially acceptable management strategy because it may promote positive relationships between students and teachers (Bayat, 2011).

Literature has often examined the use of praise as a part of a treatment component (Weyman & Sy, 2018). There are several variables that should be considered when attempting to maximize the reinforcing efficacy of praise, including content and quality (Polick, Carr, & Hanney, 2012). Praise can be categorized as general praise (GP) or behavior-specific praise (BSP). General praise is a statement that does not specifically describe the individual's behavior (Fullerton, Conroy, & Correa, 2009); whereas, BSP explicitly states the behavior being praised (Fullerton et al., 2009). Most of the studies comparing GP and BSP are with typically developing students and the results are not consistent in recommending that BSP is more effective in skill acquisition, because it is often paired with tangible reinforcers (Stevens, Sidener, & Sidener,

2011). Quality of praise, neutral or enthusiastic praise, is another variable which may affect the reinforcing efficacy of praise statements. Neutral praise is defined as praise delivered in a monotone voice with low pitch and volume. Enthusiastic praise is defined as praise delivered with high pitch and volume (Weyman & Sy, 2018). There are few studies that examine quality of praise in isolation. Weyman and Sy (2018) found that enthusiastic praise only slightly increased skill acquisition when compared to neutral praise.

Another influencing factor in the classroom setting is children's preference for interventions. There has been an increasing amount of research regarding both choice and preference assessments involving typically developing children and children with developmental disabilities (Newton, Horner, & Ard, 1993). Determining students' preference for teaching contexts and interventions can reduce disruptive behavior (Dunlap, dePerczel, Clark, Wilson, Wright, & White, 1994; Heal & Hanley, 2007).

Although there have been multiple studies examining different variables of praise, most of the literature does not address praise in isolation. Furthermore, those studies examine either content or quality of praise, but there are few studies that examine the reinforcing efficacy of both content and quality of praise on skill acquisition. The literature also indicates that identification of students' preference of instructional contexts and interventions can aid in the enhancing of instruction and decrease in undesirable behavior (Chalk & Bizo, 2004; Simonsen, Fairbanks, Briesch, Myers, & Sugai, 2008; Sutherland, Wehby, & Copeland, 2000). The current praise literature also doesn't address not only the reinforcing efficacy of varying aspects of praise, but also students' preference for praise in the same study, as well as the social validity of the different praise procedures.

The purpose of the current study is to extend previous literature by evaluating type and quality of praise in the same study and to also assess participants' preference for praise, as well as, the social validity of the different aspects of praise provided during teaching sessions.

Chapter 2

Attention has been shown to be a reinforcer for problem behavior (e.g., Beavers, Iwata, & Lerman, 2013; Hanley, Iwata, & McCord, 2003; Iwata, Dorsey, Slifer, Bauman, & Richman, 1994; Kodak, et al., 2007) and appropriate behavior (e.g., Broden, Bruce, Mitchell, Carter, & Hall, 1970; Harper, 2014; Nuernberger, Smith, Czapar, and Klatt, 2012; Thomas, Becker, & Armstrong, 1968). There is also research showing that different types or topographies of attention can be differentially preferred and reinforcing (e.g., Berg, 2000; Harper, 2014; Kodak et al., 2007; LaCerra et al., in press; Nuernberger et al., 2012; Piazza et al., 2009). For example, Kodak et al. (2007) examined several different forms of attention across functional analysis conditions to determine the differential effects on problem behavior. After conducting a functional analysis (Iwata et al., 1982/1994) to determine two participant's problem behavior was maintained by attention, the authors conducted an additional attention analysis in which each condition consisted of the delivery of a different type of attention (e.g., reprimands, unrelated comments, tickles, eye contact, praise, & physical attention) contingent upon problem behavior. Their results showed that both participants responded to specific types of attention at higher rates than other types of attention, indicating that the *type* of attention provided had significant influence on responding. Kodak et al. (2007) only evaluated the effects of these types of attention on problem behavior, so there is no way of determining if the same effects would have been observed with appropriate behavior, such as communicative responses or skill acquisition.

Harper (2014) extended research on the efficacy of different types of attention by comparing the effects of different types of attention on appropriate behavior. Harper (2014) study evaluated appropriate responding in typically developing children using three topographies of attention (i.e., praise, physical contact, and conversation) using free-operant preference

assessments, reinforcer assessments with a constant schedule, and reinforcer assessments with a progressive ratio assessment. Following these various assessments, comparisons were made to evaluate consistencies between preference and reinforcer efficacy. During both types of reinforcer assessments, the participants were presented with a maintenance task which was completed to access a condition-specific type of attention. The results were that the different types of attention were differentially effective as reinforcers where conversation was the most effective reinforcer for most participants, physical attention was also an effective reinforcer for many participants; however, praise was the least effective reinforcer across all participants. These results are somewhat concerning considering the frequent use of praise as an intended reinforcer in schools and treatment programs (e.g., Blaze, Olmi, Mercer, Dufrene, & Tingstom, 2014; Broden, et al., 1970; Falcomata, Northup, Dutt, Stricker, Vinqvist, & Engebretson, 2008; Ferguson & Houghton, 1992; Hasazi & Hasazi, 1972; Kirby & Shields, 1972; Sutherland & Wehby, 2001). However, these results differ from other research showing praise can function as a reinforcer (e.g., LaCerra et al., in press; Weyman & Sy, 2018), and there may be ways to increase the efficacy of praise such that it will function as a reinforcer.

Praise as a Reinforcer

Praise is a type of attention that may indicate approval (Lerman, et al., 2015). Despite the effects that praise can have on behavior, there is still much to learn regarding how praise comes to function as a reinforcer. Previous researchers generally assume that praise is a conditioned reinforcer and its effects have been acquired due to previous pairing with reinforcing events (Bijou & Baer, 1961; 1965; Catania, 1998; Mazur, 1998; Skinner, 1953). Conditioned reinforcement and stimulus pairing procedures provide researchers with a basis for the study of praise as a conditioned reinforcer. This has specific implications for developmentally or

intellectually disabled individuals who do not respond typically to social stimuli. Previous research establishing praise as reinforcing has typically used response-stimulus pairing (Dozier, Iwata, Thomason-Sassi, 2012). Discriminative stimulus procedures have also been shown to be effective (Lovaas, Freitag, Kinder, Rubenstien, Schaeffer, & Simmons, 1966). Dozier et al. (2012), evaluated whether a simple pairing of the neutral stimulus (praise) with a reinforcer (food) would effectively condition praise as a reinforcer for target behaviors in intellectually disabled individuals. Study 1 examined stimulus pairing and the effects on acquisition of a target response. Previously neutral praise statements were paired with preferred edible items with the purpose of determining the usefulness of that pairing in establishing praise as a reinforcer. Study 2 examined whether response-stimulus pairings would result in maintenance of the response.

Results from both studies indicated that the stimulus-pairing was not successful in establishing praise as a reinforcer (Dozier et al., 2012). However, the results of Study 2 showed that response-stimulus pairing effectively established praise as a reinforcer for half of the participants. For the participants that response-stimulus pairing was effective, praise was also a reinforcer for other responses not previously paired with food, which is consistent with similar conditioning studies in basic research (e.g., Fantino, 1977; Fantino & Romanowich, 2007; Shahan & Podlesnik, 2008). Furthermore, the response-strengthening properties acquired by praise were still effective under different conditions including extinction and conditioning for new responses. These results have some important applied implications. For example, some individuals do not respond to praise or other forms of attention, resulting in a reliance on other forms of reinforcement like edibles and leisure items. If praise can effectively be conditioned as a reinforcer, it results in access to an additional reinforcer that is less time-consuming and easier to administer (Dozier et al., 2007).

Praise in the classroom. There is a current debate as to the harm or usefulness of providing praise to influence child behavior (Apter, 2009; Bronson, 2007; Pleshette Murphy & Allen, 2007; Taylor, 2009; Weissbourd, 2009a). Bayat (2011) sought to clarify any misunderstanding regarding praise and young children, the effect of praise on self-esteem, and the utility of praise. Research has delineated between “process praise” and “person praise” (Kamins & Dweck, 1999). *Person praise* is the type that focuses on an individual’s attributes; whereas, *process praise* is descriptive and provides feedback to the individual (Dweck, 2006, 2007). Process praise can promote positive relationships between educators and young children, particularly children in schools diagnosed with disorders who engage in problem behavior. These behaviors can prove challenging to early childhood educators, and praise is a simple and non-intrusive strategy to promote appropriate behaviors. As mentioned above it may also promote positive relationships which can be a powerful reinforcer (Bayat, 2011).

Some researchers have discussed that praise can lose effectiveness when it is presented without meaning or provided lavishly (Bayat, 2011; Weissbourd, 2009a). Bayat (2011) made several recommendations regarding the use of praise including: a) always describe the behavior, b) make public acknowledgements of positive behavior, c) use judgement in providing praise due to the fact that not all children respond positively to attention, and d) pay attention to the behaviors that are valued in the learning community. When praise is presented deliberately and appropriately it can be an effective tool that promotes motivation and learning of appropriate behaviors in children (Bayat, 2011; Dweck, 1999, 2009; Weissbourd, 2009a).

Praise is a simple and nonintrusive classroom management strategy that can be implemented by teachers across populations and grade levels (Jenkins, et al., 2015). Despite years of literature supporting praise in the classroom (Brophy, 1981; Falcomata et al., 2008;

Fisher, Pawich, Dickes, Paden, & Toussaint, 2014; Luczynski & Hanley, 2010; White, 1975), there are significant gaps in the literature, including rates of praise across grade levels, types of praise, and the use of praise in general education versus special education, and whether these have an effect on decreasing inappropriate behavior or increasing skill acquisition (Jenkins et al., 2015). Although the effectiveness of praise in managing inappropriate behavior has support in the literature (Anderson, Evertson, & Brophy, 1979; Brophy, 1981; Hawkins & Heflin, 2011; Kalis, Vannest, & Parker, 2007; Myers, Simonsen, & Sugai, 2011; Reinke et al., 2007, 2008; Sutherland et al., 2000; Thompson et al., 2012), teachers of students with emotional and behavioral disorders (EBD) don't use praise statements at a high rate in the classroom even though it is indicated that when praise in the classroom increases, on-task behavior increases as well (Sutherland, et al., 2000).

There is various literature investigating teacher attention as an effective intervention for mitigating problem behavior (Reinke et al., 2007, 2008; Sutherland et al., 2000; Thompson et al., 2012). Some examples of contingent attention include praise, physical contact, and proximity (Hart & Risley, 1995). Praise, specifically, has been found to increase appropriate behaviors in elementary students. Although the literature is promising, most often praise has not been studied in isolation, but as one component in a treatment package (Falcomata et al., 2008; Fisher, Pawich, et al., 2014; Luczynski & Hanley, 2010). Fullerton, Conroy, and Correa (2009) extended previous research on praise by specifically isolating praise as an intervention. The authors investigated the effectiveness of training using a consultative model that was designed to increase early childhood teachers' use of praise statements, examine the effects of specific praise statements on appropriate and problem behaviors, and examine generalization across activities and settings. Specific praise statements, or behavior specific praise (BSP) is defined as praise

statements that explicitly describe the behavior that is being praised. The study consisted of 3 phases, pre-experimental, baseline, and training, and used a multiple baseline across subjects' design for experimental control. Results were that the teachers' rates of praise statements for appropriate behaviors increased following training, and when praise statements increased, students' compliance also increased. The authors noted that the number of participants was low and that may affect the generality of the results. Also, although subjects displayed problem behaviors, they were typically developing children, so the generalization to children with developmental disabilities is unknown. All the teachers participating in the study were also experienced, so it is unknown whether these results would be replicated with less-experienced teachers. Despite these limitations, the results support previous specific praise as an effective intervention. Specific praise was isolated as an intervention, suggesting that praise as a primary intervention can be effective and efficient (Fullerton et al., 2009).

There is a great deal of literature supporting the idea that when teachers increase their use of praise in the classroom, problem behaviors (such as off-task behavior) decrease (Chalk & Bizo, 2004; Simonsen et al., 2008; Sutherland, et al., 2000). When acknowledged for positive behavior, students can discriminate between behaviors that result in attention and those that do not. Although literature examining the effectiveness of praise is limited, information regarding natural rates of teacher praise in the classroom, specifically general education, is more prevalent (Anderson et al., 1979; Brophy, 1981; Burnett & Mandell, 2010; Floress, Reinke, & McKown, 2015; Reinke, Herman, & Stormont, 2013; White, 1975). Flores et al. (2015) examined natural rates of praise of general education teachers across kindergarten to fifth grade to determine the average rate of praise at each level, differentiation between rates and grade levels, whether behavior specific praise (BSP) or general praise (GP) was used more often, and any relationship

between rates of praise and disruptive behavior. The results were that overall rates of praise were low across all grade levels and GP was used more often than BSP. There was also a significant negative relationship between BSP and off-task behavior; meaning that those teachers who used BSP more often have less off-task behavior exhibited by students in their classrooms. This is important because of the implications for training teachers to increase BSP. Future research should use a more diversified sample (Floress et al., 2015) and specifically evaluate the comparison of BSP and GP on responding in typically developing children.

Variations of Praise

Although praise has been examined in the literature as a treatment component, there is little research involving praise in isolation from other interventions (Weyman & Sy, 2018). However, there are several variables that need to be considered when evaluating praise as a reinforcer to maximize its reinforcing efficacy including content, quality, duration, and immediacy (Polick et al. 2012). When addressing content, praise can be categorized as general ('Great job') or descriptive ('Great job writing your name'). General praise is a positive, declarative statement that is contingent on appropriate behavior but does not specifically describe the individual's behavior (Fullerton et al., 2009). Additionally, there are other variables that may influence the effect of praise including quality (e.g. volume and intonation), duration and immediacy (Weyman & Sy, 2018).

Content of praise. One common variable that is studied in praise research is the *content* of the statements. Behavior-specific praise (BSP), or praise statements that state the behavior being praised, has been suggested in the literature for individuals with disabilities (e.g., Sutherland, et al., 2000), but there are few studies comparing GP and BSP with children with disabilities (Stevens, et al., 2011; Fueyo, Saudagas, & Bushell, 1975). Stevens, Sidener, and

Sidener (2011) compared the effects of behavior-specific praise and general praise on tact acquisition in children with pervasive developmental disorders. The experimenters included tokens in conjunction with praise because in the natural setting praise was often paired with a tangible reinforcer. The effects of specific praise with tokens, general praise with tokens, and tokens only were evaluated using a multiple-probe design across participants with an embedded alternating treatments design. Results were that skill acquisition was acquired steadily with little difference across conditions and teaching sets. The results did not support the recommendation that behavior-specific praise was more effective in skill acquisition; however, it is possible that the praise statements were too similar or didn't function as reinforcers. Also, the pairing with the tangible reinforcers may not have resulted in praise becoming a conditioned reinforcer. Although the results did not demonstrate behavior-specific praise as effective in the acquisition of tacts, there are still advantages to specific praise, including implications for teacher training. Additionally, further evaluations comparing these types of praise, independent of any tangible reinforcers, may provide more information on the efficacy of each.

Quality of praise. Another variable which may affect the efficacy of praise is the *quality*. Weyman & Sy (2018) conducted a study in which they compared the effects of neutral, enthusiastic, and no praise conditions on the rate of discrimination acquisition. This experiment included adult participants with diagnoses of autism and developmental disabilities and the discrimination acquisition was assessed during discrete-trial sessions. Their study extended prior research on whether qualitative differences in praise affects the level of appropriate behavior in individuals with autism. Although treatment effects were similar across all conditions, there was slightly faster skill acquisition when participants were exposed to enthusiastic praise. The results indicated that there may be a slight increase in skill acquisition when using enthusiastic praise.

Maintenance was achieved with individuals who received enthusiastic praise and no praise when compared to neutral praise. The authors noted that discrimination acquisition occurred at the same rate for the no praise and the enthusiastic praise conditions, suggesting that prompting may have been enough alone in promoting discrimination acquisition. The authors included this as a limitation, explaining that the prompting may have functioned as a discriminative stimulus, establishing operation, or both. Additionally, in situations such as this, in which there is not a clear differentiation between the efficacy of procedures, it may be beneficial to conduct further analyses to determine the client preference of the different variables and the social validity of the procedures.

Social Validity

Social validity refers to the importance, usefulness, and social desirability of interventions and treatment programs (Wolf, 1978). Similar constructs related to social validity include treatment acceptability and consumer satisfaction which assess the degree to which the consumer (teacher, parent, child) “like” prescribed procedures (Schwartz, 1996). Assessments of social validity address the broader social environment and the value of the treatments within those contexts. Specifically, regarding school-based practices, one way to address social validity is by measuring consumers’ acceptability of procedures and services (Eckert & Hintze, 2000). The variables of focus when examining the treatment acceptability of behavioral strategies include the procedures, objectives, and outcomes of the procedures. Preference and acceptability can be obtained from both the direct consumers (i.e., child) or the indirect consumers (i.e., parent, teachers). (Eckert & Hintze, 2000; Hanley, 2010).

Empirical Evaluations

Behavioral interventions that are more responsive to the preference of the individual have led to more research regarding choice and preference assessments with individuals with developmental disabilities (Newton, et al., 1993). It's important to determine children's preference in the classroom setting because this can affect the students' adoption of classroom practices (Meyer & Evans, 1989; Newton, Horner, & Ard, 1993; Parsons & Reid, 1990; Shevin & Klein, 1984). Dunlap and colleagues (1994) demonstrated that if a student's preference was integrated into the instructional environment there would be less instances of disruptive behavior. Studies determining preference for behavioral interventions commonly use modified concurrent chain arrangements (Catania, 2013).

Heal and Hanley (2007) examined the effectiveness of and preference for three different teaching contexts. The authors used a concurrent-chains arrangement to evaluate the participant's preference for each context. Tasks were chosen according to participant skill level and a paired-item preference assessment (Fisher et al., 1992) was conducted to determine the preferred set of teaching materials. Preference assessments were also conducted for interaction areas and consumable items. Exposure sessions were conducted in which each participant experienced each interaction area once and then choice sessions were conducted, and multielement and reversal designs were used to evaluate the relation between interaction areas and terminal -link behaviors (i.e., undesirable behavior and correct responding). All four participants preferred the play conditions to the teacher-led-instructional conditions. When the preferred condition was unavailable all four participants chose the sequential over the embedded motivational system. The authors found that rates of disruptive behavior were highest in the least preferred instructional context which is consistent with findings from Dunlap et al. (1994). The results

demonstrate the importance of identifying preference for instructional contexts to enhance the efficacy of instruction and decrease undesirable behavior. Additionally, identifying preference for different types of attention, specifically praise, would be useful given the literature supporting praise and the mitigation of problem behavior (Chalk & Bizo, 2004; Simonsen et al., 2008; Sutherland, Wehby, & Copeland, 2000) and praise as a reinforcer (e.g., LaCerra et al., in press; Weyman & Sy, 2018).

Subjective Ratings

The social validity of identification of differential effects of praise and identifying preference for praise is an area of importance, as well. This may be another reason to recommend teachers increase rates of praise, specifically enthusiastic praise. Parents may view a teacher providing students with reinforcement in the form of praise, especially enthusiastic praise, as more engaged with their child (Clausen, Alden-Anderson, Stephenson, Mueller, & Klatt, 2007). Further research determining not only the effectiveness of enthusiastic praise as a reinforcer, but the social validity of this practice is warranted given the support of praise as a reinforcer in the literature (Clausen et al., 2007, LaCerra et al., in press; Weyman & Sy, 2018).

There are few studies in which praise is examined in isolation even though it has been proven to be effective as a reinforcer for appropriate behavior and skill acquisition (Weyman & Sy, 2018). Much of the literature has focused on either typically developing children (e.g. Harper, 2014; Fullerton et al., 2009) or participants with disabilities (e.g. Stevens et al., 2011; Weyman & Sy, 2018), but not the differential effects of quality of praise with both populations. Additionally, similar studies assessing the reinforcing effectiveness of different types of praise do not investigate the rates and type of praise the participants are exposed to in the natural environment. Furthermore, there is little research examining not only the effectiveness of this

nonintrusive, relatively simple form of reinforcement, but the social validity of the procedures, as well.

There are multiple purposes of the current study, which include replicating and extending previous research by a) conducting a descriptive analysis of the delivery of praise statements within general education and self-contained special education classrooms, b) evaluating the effects of the content and quality of praise on skill acquisition in children diagnosed with autism/developmental disabilities and typically developing children, and c) extending the social validity of praise-based teaching by evaluating the participant's preference and measuring teachers (and parents) acceptability of the different praise procedures.

Study 1 Method – Praise Evaluation

Participants

Participants in the praise evaluation were 3 students that attend a local elementary school. The participants included typically developing students and students with developmental disabilities enrolled in 1st and 2nd grades. David (age 8) received instruction in a self-contained Multiple Disabilities (MD) classroom. He had a diagnosis of autism and reading level of mid-kindergarten. Brenda (age 7) received instruction in a self-contained Behavior Disabilities (BD) classroom. She had diagnoses of Oppositional Defiant Disorder and Autism Spectrum Disorder and reading level of mid-kindergarten. Dylan (age 8) received instruction in the general education classroom with resource room pull-out services in language arts and math. He had a diagnosis of Attention Deficit Hyperactivity Disorder and a reading level of mid-first grade. The school all 3 participants attended was an urban, public elementary school serving grades kindergarten through fifth grade. It had four general education classrooms per grade level, and five self-contained classrooms, including an autism support program, behavior disabilities program, and multiple disabilities program. There were 533 students enrolled in the school at the time of the current study. Twenty-six percent of the student population was Hispanic, 34% African American, and 40% Caucasian. The elementary school was in an area of low socioeconomic status with 80% of the student body eligible for free lunch and 12% eligible for reduced lunch.

Setting

Experimental sessions were conducted in a separate room (the primary researcher's office) from the students' typical classroom and were conducted by the primary researcher. The room included a table, chairs, Swivl device and iPad (for video recording), and session-specific

materials (described below). The room also included the primary researchers work-related materials (i.e., computer, phone, materials on wall).

Materials

Materials for the praise evaluation sessions included 8x10 pieces of colored construction paper to be associated with the different conditions (i.e., general praise/neutral, general praise/enthusiastic, behavior-specific praise/neutral, behavior-specific praise/enthusiastic). The target sight words were chosen by the experimenter based upon the targets chosen during the preassessment and included sight word reading tasks. Notecards were 5x7 inches with a single word hand-written in block lettering represented the sight word tasks. The words included in the study were those that were unknown to the participant during the pre-assessment.

Dependent Variable & Measurement

Data during experimental sessions were collected on participant behavior (i.e., correct, and incorrect responses) and experimenter behavior (i.e. implementation of different types and quality of praise). Trial-based data were collected by trained observers using paper and pencil. The observer made a check mark in the box beneath the behavior on the data sheet during each trial within a session.

The primary dependent variable during the praise evaluation was the cumulative number of mastered words, letters, or phonemes. A *correct response* was defined as the accurate and independent pronunciation of the word within 5 s of presentation of the S^D (e.g., “what does this say?”). An *incorrect response* was defined as an incorrect pronunciation of the word, no response within 5 s of the presentation of the word or saying, “I don’t know.” Mastery was defined as 100% correct responding to a target on 3 consecutive sessions. Mastered targets were replaced with new, unknown targets so there were always equal numbers of targets across

conditions. The difficulty of the targets was kept relatively equal by using targets with similar numbers of syllables across conditions.

Researcher behavior data were collected on the delivery of condition-specific consequences (i.e., type of praise) during a trial. The different praise conditions included a) general praise/neutral, b) general praise/enthusiastic, c) behavior-specific/neutral, and d) behavior-specific/enthusiastic. *General praise* was defined as positive statements which do not indicate a specific behavior (i.e., “nice job”). *Behavior specific praise* was defined as positive statements which indicate a specific behavior (i.e., ‘nice job sitting quietly’). *Neutral praise* was defined as praise delivered in a monotone voice with low fluctuation, pitch, and volume. *Enthusiastic praise* was defined as praise delivered with high pitch and volume. These types and qualities were combined in the various conditions but scored separately on the data sheet. For example, in the general praise/neutral condition, the praise delivered was both general, meaning it did not specify a behavior, and was delivered in a monotone voice; however, the data collector put a check mark under general praise and neutral praise on the data sheet.

Interobserver Agreement & Treatment Integrity

A second observer independently recorded data during 33.3% (32%-36%) of sessions via video. Interobserver agreement (IOA) was calculated using the point-by-point (or trial-by-trial) method (Cooper et al., 2007). An agreement was scored if both observers recorded the same behavior during a trial. At the end of the session, the number of trials with agreements was divided by the total number of trials and multiplied by 100%. IOA for David was 98.7% (97%-100%). IOA for Brenda was 100%. IOA for Dylan was 99.3% (98.3%-100%).

The same graduate student observer collected data on procedural integrity during experimental sessions for an average of 33.3% (range, 32%-36%) of sessions. The observer was

not told the phase or condition of the session and collected data on the behavior of the primary researcher during the trials and their response to the participants' behavior. Procedural integrity was calculated by dividing the number of trials in which the correct consequence was provided by the total number of trials and multiplied by 100%. Procedural integrity was 100% across all three participants and was collected for 32% of sessions for David, 36% of sessions for Brenda, and 32% of sessions for Dylan.

Experimental Design

The comparison of the effects of the variations of praise were evaluated using a multielement design. Following stable responding in a baseline condition, the praise conditions were introduced and alternated in a quasi-random order to ensure that the same condition was not conducted more than twice consecutively. The goal of the multielement design is to compare different levels of a treatment (e.g., token delivery vs. response cost) or different variables within a treatment (e.g., edible reinforcers vs. tangible reinforcers within differentiation reinforcement; Hains & Baer, 1989). This type of design has several advantages including the ability to control for potential confounding background variables (e.g., choice of experimenters, settings, time of day) can be controlled and counterbalanced across sessions. This type of design allows for an evaluation of interactions between interventions that other designs wouldn't identify and minimizes sequence effects through brief rather than prolonged exposure to any given condition (Diller, Barry, & Gelino, 2016; Ulman & Sulzer-Azaroff, 1975).

Pre-experiment Assessments

Prior to beginning baseline sessions for the praise evaluations, two assessments were conducted with every participant. These assessments provided information on possible color

biases which informed the selection of condition-specific discriminative stimuli and information regarding possible targets to be used within the praise evaluation.

Pretest. For participants with developmental disabilities, sight word targets were selected according to their current programming level and provided by their special education teacher. For the typically developing participant, lists of sight words were obtained from the general education teacher. After obtaining lists from teachers, two pretest sessions were conducted to determine known and unknown words or phonemes. The pretest consisted of the participants reading the list of potential targets to the researcher. No differential consequences were provided for correct or incorrect responses. Targets that resulted in an incorrect response across both pretest sessions were included in the pool of possible targets for experimental sessions.

Color preference assessment. A color preference assessment was conducted to identify the colors that were associated with each condition. There were nine colored cards (i.e. red, light blue, yellow, green, dark blue, purple, pink, white, brown) included in a paired-item preference assessment (Fisher et al., 1992). Each colored card was paired with every other colored card one time for a total of 36 trials. During a trial, a pair was presented to the participant and the participant was prompted to touch the color they like best. The participants were provided non-contingent praise for attending throughout the session. No other differential consequences were provided during the color preference assessment. At the end of the session, a preference hierarchy was created by dividing the number of trials in which a colored card was selected by the number of trials in which it was presented and multiplying by 100%. The colors were then ordered from high to low according to the percentages. High-preferred colors were colors with an 80-100%, moderate-preferred colors were colors with a 40-60%, and low preferred colors were those with a 20% or lower. To mitigate the likelihood that selections during the praise

preference assessment were controlled by a preexisting color preference, the moderate-preferred colors were used as discriminative stimuli for the different conditions.

Praise Evaluation

At the start of each session the researcher provided the participant with the session specific rules (see below). During the praise evaluation, trials were conducted in sets of four sessions (one of each condition). There were four conditions following baseline a) general/neutral praise, b) behavior specific/neutral praise, c) general/enthusiastic praise, and d) behavior specific/enthusiastic praise. Five target words were selected for each condition and they were presented three times in random order for a total of 15 trials per session.

Baseline. During baseline sessions, four sets of five unknown words were presented to the participant, each set would correspond with a type of praise in the following condition. There was no programmed reinforcement for correct or incorrect responses. The experimenter presented the target to start the trial. The experimenter stated the condition-specific rule, “I am going to show you some sight words. When you read the words, I am not going to tell you if you are correct or incorrect.” If 5 s passed after the S^D was been presented without a response, the stimulus was removed, and the next trial began.

Praise Evaluation. Prior to the start of a session, the experimenter presented the participant with the colored card associated with that condition and provided condition-specific statements or rules (see below). Following a correct response, the condition-specific type of praise was delivered. Following an incorrect response, the correct pronunciation of the word was provided; however, the participant was not required to repeat or practice the correct pronunciation before the next trial was begun.

General Praise/Neutral. At the start of the general praise/neutral (GPN) sessions, the experimenter stated, “During (color) sessions, when you get a word correct, I am going to say things like, ‘good’, ‘good job’, ‘nice’. If you get a word incorrect, I will tell you the correct word.” During GPN sessions, non-specific praise was delivered in a monotone voice with low fluctuation, pitch, and volume.

General Praise/Enthusiastic. At the start of the general praise/enthusiastic (GPE) sessions, the experimenter stated the rule, “During (color) sessions, when you get a word correct, I am going to say things like, ‘good!’, ‘nice!’. If you get a word incorrect, I will tell you the correct word.” During GPE sessions, non-specific praise was delivered in a tone with higher pitch and volume than a normal speaking tone.

Behavior Specific/Neutral. At the start of the behavior specific/ neutral (BSN) sessions, the experimenter stated the rule, “During (color) sessions, when you get a word correct, I am going to say things like, ‘good job reading’, ‘good job reading that word’, ‘nice reading’. If you get a word incorrect, I will tell you the correct word.” During BSN sessions, behavior-specific praise was delivered in a monotone voice with low fluctuation, pitch, and volume.

Behavior Specific/Enthusiastic. At the start of behavior specific enthusiastic (BSE) sessions, the experimenter stated the rule, “During (color) sessions, when you get a word correct, I am going to say things like, ‘good job reading!’, ‘nice job with that word!’. If you get a word incorrect, I will tell you the correct word.” During BSE sessions, behavior-specific praise was delivered in a tone with higher pitch and volume than a normal speaking tone.

Study 2 Method – Descriptive Assessment

Participants

Participants in the descriptive assessment included Andrea, a general education teacher of a 2nd grade classroom and Donna and Kelly, two special education teachers of self-contained classrooms. Donna was David's teacher and she taught in the MD self-contained classroom (grades kindergarten – 2nd grades). Kelly was Brenda's teacher and she taught in the BD self-contained classroom (1st-3rd grades). Andrea was Dylan's teacher and a 2nd grade general education teacher.

Setting

Descriptive assessment sessions were conducted in the teachers' classrooms. The general education classroom was a 2nd grade classroom in which the students are with one teacher for all major subject areas. Kelly's special education classroom was the behavior disabilities self-contained classroom which serves 1st – 3rd grade students. Donna's special education classroom was a multiple disabilities self-contained servicing kindergarten through 2nd grade students. Both classrooms had one certified special education teacher and two paraprofessionals.

These classrooms were chosen for the descriptive analysis data collection because they were the classrooms in which the three participants from study one received academic instruction. The researcher sat in a corner of the room to conduct the observations. Four to six, 10-15-minute observations were conducted in each classroom across variable times of day and academic contexts (i.e., math and reading; small group instruction and whole-group instruction). The researcher sat in an unobtrusive position in the classroom and collected data on participant behavior. The target behaviors were the same as the experimenter behaviors from study one a) general/neutral, b) general/enthusiastic, c) behavior specific/neutral, and d) behavior

specific/enthusiastic praise statements provided to all students in the classroom, not just the participants in the praise evaluation. There were no programmed consequences for any behaviors engaged in by the teachers.

Dependent Variable, Measurement, & Interobserver Agreement

Data in the descriptive assessment sessions were collected on all praise statements delivered by the teacher (i.e., general praise/neutral and enthusiastic; behavior specific praise/neutral and enthusiastic) in the classroom environment across all students, not specific to the participants of the study. *General praise* was defined as positive statements directed at one or more students which do not indicate a specific behavior (i.e., ‘nice job’). *Behavior specific praise* was defined as positive statements directed at one or more students which indicate a specific behavior (i.e., ‘nice job sitting quietly’). The frequency of all responses was collected using paper and pencil. *Neutral praise* was defined as praise delivered in a monotone voice with low fluctuation, pitch, and volume. *Enthusiastic praise* was defined as praise delivered with high pitch and volume.

A second observer independently recorded data during 50% of sessions for Donna, 30% of sessions for Kelly, and 25% of sessions for Andrea. Interobserver agreement was calculated using total count IOA by dividing the smaller total count by the larger total count and multiplied by 100%. IOA for Donna was 95.5% (91%-100%), Kelly was 94.5% (88%-100%), and Andrea was 100%.

Study 3 Method – Social Validity

Participants

Participants in the social validity assessment included the participants from the praise evaluation (David, Brenda, and Dylan), the participants from the descriptive assessment (Donna, Kelly, and Andrea), and the mother of each of the participants from the praise evaluation, Sheila was David's mother, Cindy was Brenda's mother, and Iris was Dylan's mother.

Dependent Variable, Measurement, & Experimental Design

The primary dependent variable during the praise preference evaluation was the *condition selected* by the participant during a concurrent-chains arrangement. A concurrent-chains arrangement includes two parts, an initial and terminal link. The initial link includes stimuli that are associated with various schedules or condition, and the terminal link is the implementation of that schedule or condition (Catania, 2013). Data were collected on the condition selected during the initial link of the sessions to indicate preference. During the selected session, the same data were collected as study one.

Subjective data were collected from the teachers and parents at the end of the study. Both teachers and mothers scored their satisfaction of the praise delivered across conditions and agreement regarding the effectiveness of the conditions according to a Likert scale in which 1 indicated very unsatisfied or strongly disagree to 7 which indicated very satisfied or strongly agree. Additionally, open-ended questions regarding perceived child preference and enjoyment as well as mother/teacher preference were included to elicit more descriptive answers from mothers and teachers.

Procedures

Two types of social validity assessments were conducted with each participant. The empirical evaluation of the participants' preferences for the praise conditions included a

concurrent-chains arrangement procedure similar to previous research on preference for interventions (Hanley et al., 1997; Hanley et al., 2005; Heal et al., 2007; Heal et al., 2009) which was conducted following the praise evaluation. The subjective evaluation included a survey provided to the mothers and teachers at the end of the study.

Praise preference assessment. Prior to starting a session in the praise preference assessment, the four colored cards associated with each condition were placed in front of the participant. The participant was reminded of the rule for each color (i.e., “During ____ sessions, when you get a word correct, I say things like, ‘ _____ ’”). Similar to study one, four sessions were conducted in a block.

During the initial link of the concurrent-chains arrangement, the experimenter instructed the participant to select a condition (“pick the one you liked best”). After he or she selected a condition, the terminal link was conducted.

The terminal link included a session conducted according to the praise condition that he or she chose during the initial link. Terminal link procedures were the same as those described in study one.

Parent & teacher survey assessment. After the study was completed, teachers and mothers were recruited to view video examples of the different praise sessions. The video clips from each of the four conditions were selected based on similar performance across conditions by the participants, meaning they had roughly the same number of correct and incorrect responses across videos. Each mother viewed video examples of her child during all four praise conditions and each teacher viewed video examples of their student during all four praise conditions. The primary researcher showed each video clip, one at a time, to each parent and teacher. After watching the videos, the mothers and teachers completed a brief survey including questions regarding the satisfaction with the procedures, their agreement as to the efficacy of procedures, their perceptions of their child or student's performance and preference for the condition, and their preference for conditions. Once all the surveys were returned, the lead researcher compiled tables representing the patterns in satisfaction, agreement of effectiveness, and perceptions.

Chapter 4 – Results

Figure 1 depicts the cumulative number of mastered targets during praise evaluation and preference evaluation by David. During baseline no acquisition occurred. During the praise evaluation, David acquired words across all four conditions. There was differentiation between the behavior-specific and general-praise conditions. David acquired the most targets in the BSN condition (9), followed by the BSE condition (8). David acquired the least number of targets during the GPN and GPE conditions (5). During the preference evaluation, David showed a clear preference for the BSE condition as compared to the other three praise conditions. David selected the BSE condition most often (6), followed by GPE (3), and GPN (1). David did not choose the BSN condition during the preference evaluation. David also acquired additional targets during BSE condition (4) but did not acquire targets in any of the other condition, likely due to the infrequency of his selecting the other conditions.

Figure 2 depicts the cumulative number of mastered targets during praise evaluation and preference evaluation by Brenda. During baseline no acquisition occurred. During the praise evaluation, Brenda acquired words across all four conditions. There was little differentiation between the four conditions. Brenda acquired the most targets in the BSN condition (6), followed by GPN (5), and GPE (4). Brenda acquired the least number of targets in the BSE condition (3). During the preference evaluation Brenda showed a preference for the GPN and BSN conditions when compared to the other two praise conditions. Brenda selected the GPN (4) and BSN (4) most often, followed by GPE (1) and BSE (1). Brenda also acquired 1 additional target during the GPN condition.

Figure 3 depicts the cumulative number of mastered targets during praise evaluation and preference evaluation by Dylan. During baseline no acquisition occurred. During the praise

evaluation, Dylan acquired words across all four conditions. There was differentiation between the neutral praise and enthusiastic praise conditions. Dylan acquired the most targets during GPN (9), followed by BSN (8) and BSE (6). Dylan acquired the least number of targets during the GPE condition (4). Dylan selected the GPN most often (5) followed by GPE (1), BSN (1), and BSE (1). Dylan also acquired an additional 2 targets during the GPN condition and 1 additional target during the GPE condition.

Figure 4 depicts the rate of praise statements delivered by Donna during 4 classroom observations. The total number of praise statements are also broken down into percentages across the praise types. Donna's rate of praise statements averaged 1.52 (range, .93-2.3) across sessions. The most common type of praise delivered by Donna was GPN at an average of 57.35% (range, 15.1%-81.2%) of praise statements, GPE averaged 18.9% (range, 17.5%-19.9%), BSN averaged 11.3% (range, 0-30.1%), and BSE averaged 12.5% (range, 0-34.9%).

Figure 5 depicts the rates of praise for Kelly during 6 classroom observations. The total number of praise statements are also broken down into percentages across the praise types. Kelly's rate of praise statements averaged 1.21 (range, .64-2.55) across sessions. The most common type of praise delivered by Kelly was GPN at an average of 53.9% (range, 21.9%-67.7%) of praise statements, GPE averaged 27.1% (range, 3.1%-67.1%), BSN averaged 12.8% (range, 0-36.1%), and BSE averaged 6.25% (0-12.5%).

Figure 6 depicts the rates of praise for Andrea during 4 classroom observations. The total number of praise statements are also broken down into percentages across the praise types. Andrea's rate of praise statements averaged .33 (range, .2-.54). The most common type of praise delivered by Andrea was GPN at an average of 64% (range, 50%-85.2) of praise statements,

GPE averaged 8.5% (range, 0-19.3%), BSN averaged 27.5% (range, 0-50%), and BSE averaged 0.

Table 1 depicts the satisfaction scores and belief in effectiveness recorded by the participants mothers and teachers. Each condition was rated on a 7-point Likert scale from 1 (extremely dissatisfied/strongly ineffective) to 7 (extremely satisfied/strongly effective). Overall, the enthusiastic conditions were rated higher than the neutral conditions by both mothers and teachers. The GPN condition was scored an average of 4.17 (range, 2-6), GPE an average of 6.67 (range, 6-7), BSN an average of 4.17 (range, 2-6), and BSE 6.33 (range 6-7). The mothers and teacher were relatively neutral about their belief in the efficacy of the content or quality of the praise statements. Content was scored an average of 4.5 (range, 2-7) and quality was scored lightly higher at an average of 5.5 (range, 2-7).

Table 2 depicts the beliefs and preferences stated by the mothers and teachers regarding the various conditions. When asked if the participant appeared to learn better in one condition, two of three teachers, and one of three mothers stated yes. The most commonly cited condition was the BSE condition. When asked if the participant appeared to enjoy one condition more, all mothers and teachers stated yes. Again, the BSE condition was the most often cited condition. When asked if they had a preference for one condition, again, all mothers and teachers said yes. The most often cited condition was the GPE condition.

Chapter 5 – Discussion

The purpose of the current study was to determine the differential reinforcing effects of and social validity of various types and qualities of praise. Overall, all three subjects acquired significantly more targets during the praise evaluation conditions as compared to baseline, but there wasn't a clear differentiation between type or quality of praise and the effect on number of mastered targets for all participants. This is consistent with previous praise literature which has mixed results regarding the reinforcing efficacy of different types or quality of praise in both maintenance tasks (Polick et al., 2012) and skills acquisition (Clausen et al., 2012; Stevens et al., 2011; Weyman & Sy, 2018). These studies have either examined praise content or quality in isolation, not in the same study as this current study did. Previous literature indicates that multiple variables may influence the efficacy and preference for praise, so this study attempted to identify the differential reinforcing effects of both content and quality of praise. Although the current study did not demonstrate a clear difference between type or quality of praise and its effect on skill acquisition, there were some interesting findings that have clinical implications.

As mentioned, there were varying patterns of acquisition across participants. For example, two of the participants (David and Brenda) had at least one variant that appeared to affect responding. For example, David acquired more targets during the behavior-specific conditions (BSE, BSN); however, there did not appear to be a significant difference based on the quality of the behavior-specific praise. Brenda acquired more targets in the neutral conditions (BSN, GPN); however, there was little differentiation based on the content of the praise statements. Dylan, in comparison, acquired more targets during three of the four conditions. There are several possible explanations for the varied results across all three participants. The first is that the sight words obtained from their teachers were supposed to be targets with which they did not have a previous

history; however, that can only be said in terms of words targeted within the classroom at the start of the study. It is possible that the participants worked on reading at home with their parents and some of these words were practiced there; however, targets were only chosen if they were unknown during preassessment, meaning they were unable to read the word prior to the study. Additionally, targets were different across conditions. Number of syllables were similar across conditions to attempt to control for difficulty, but it was impossible to fully control that the difficulty of the words were controlled for across all sessions. Future studies may benefit from using a different task, such as a matching task. The setting in which sessions were run could have also affected acquisition and preference. Typically, sight word reading tasks and assessments are run in the classroom amongst peers. In the current study sessions were run in a separate room in a 1:1 format, which is very different from what occurs in the natural environment. Skill acquisition rates may not mirror the rate at which the participant would learn the targets in a classroom setting. Furthermore, students may prefer different type or content of praise when in the classroom with their peers.

Additionally, within session prompts may have affected skill acquisition. Error correction prompts were used during experimental sessions. During these prompts, the researcher modeled the correct way to read the word but did not require the participant to repeat the model prompt. At times, participants independently repeated the prompted target following the error correction prompt. This did not occur consistently across sessions for any of the three participants but may have served as additional practice for some words and in turn influenced skill acquisition. Data was not collected on the frequency of the participants' repeating words following error correction, but future studies should consider this to determine if this potential additional with-in session prompting influenced acquisition of targets. It should be noted that the practice of repeating the

words following error correction is consistent with sight word reading tasks in the natural environment.

The current study aligns with previous literature in that different types or quality of praise did not significantly affect skill acquisition (Polick et al., 2012; Weyman & Sy, 2018); however, there were some interesting and important findings that have clinical significance and implications for future research. First, this study assessed skill acquisition during different combinations of content and quality of praise which allowed for a wider breadth of types of praise, in which some closely mimicked the type of praise commonly occurring within classrooms or at home, and represented the types of praise which are believed to be the most effective. For example, across all three teachers the most common type of praise statements delivered within the classrooms were general-neutral statements; however, two of the three teachers believed the participants learned better when behavior-specific enthusiastic praise was delivered. In fact, only one of these teachers (Donna) was correct in that her student acquired more targets in the BSE condition as compared to both general conditions. If the current study had not combined the content and quality, some of these important data would have been missed.

Second, the current study assessed participants' preference for both praise type and quality, which, to the author's knowledge, is not currently evident in the literature. Two of the three participants clearly preferred one condition over the other three, and the preferred conditions corresponded to the conditions in which they had acquired the most targets. This finding is important because previous research has shown that academic performance was not always a predictor for preference (Heal & Hanley, 2007). Measuring a child's preference for teaching contexts and interventions in the classroom provides educators with an empirically based method for following a child's lead when designing strategies for both instruction and implementation of

interventions. This may be particularly helpful if all procedures appear to be equally effective. It is important to consider all variables that may affect preference for and/or avoidance of specific conditions. Heal and Hanley (2009) found that higher proportions of errors during different strategies may have led the participants to avoid choosing those specific teaching contexts during preference assessment. Similarly, the participants in the current study may have chosen conditions in which they were acquiring more targets and avoided conditions during which they made more errors.

Third, this study is set apart from previous research because the natural rates of praise in which the participants were exposed to in their classrooms were also assessed. The purpose of this assessment was to determine if there was a connection between the natural rates of praise and types of praise the participants were exposed to in the classroom and their rate of acquisition and preference. There have been several suggestions for increasing rates of praise in the classroom in the literature, due to the positive affect it has on classroom culture. These have included consultation, self-monitoring, and models that involve performance feedback (Briere, 2015). The literature indicates that following consultation, implementation of classroom management strategies, specifically praise, increased. Reprimands decreased and the changes in teacher behavior were related to decreased inappropriate behaviors in the classroom. Similar patterns of responding have been found using other interventions such as school consultation models, which involve self-monitoring, consultations meetings, and performance feedback (Briere, 2015).

Following assessment of rates of praise in the classroom in the current study, the data were that the type of praise that Andrea, Dylan's teacher, consistently delivered the most was general and neutral, and interestingly his preference was for GPN sessions. However, Donna, David's

teacher, also engaged in consistently higher proportions of general neutral praise in the classroom and David's preference was for the BSE condition. Sheila, David's mother, indicated that she preferred the enthusiastic conditions and tried to use those types of praise, which may have affected his preference. Although further analysis and study is needed, these results may a relationship between the type and quality of praise students are exposed to in the natural settings and their preference for the types of praise, and if so, there are important implications to this finding. Dozier et al. (2012) examined procedures for conditioning praise as a reinforcer and found that response-stimulus pairing may be one viable procedure. Lovaas and colleagues (1966) hypothesized that social stimuli can maintain responding following pairing with other reinforcers through the social stimuli acquiring discriminative properties. It is important to consider the behavioral mechanisms behind establishing praise as a reinforcer because previous literature has indicated that the behavior of some individuals, specifically those with developmental delays, is likely not sensitive to praise or other types of attention as reinforcers (Lovaas et al., 1966). Establishing praise as a reinforcer is of extreme importance in schools because praise is less intrusive and more feasible to deliver compared to alternative tangible reinforcers, it's not as likely to compete with other behaviors such as on-task behavior, and it is a strategy that may be used across multiple individuals in various settings (Dozier et al., 2012). It would also be interesting to collect data on praise delivered at home as well. In the future more observations should be conducted in the classroom, possibly examining the type and content of praise delivered specifically to the participants. With that information, we may have been able to speak more strongly to the possible relationship between the type of praise delivered across natural settings and the efficacy and/or preference by students.

There were two additional limitations that should be discussed. First, the number of participants was a limitation. The current study only has three participants, and the participants

have varied characteristics, such as behavioral and intellectual diagnoses. Future research should be conducted with more participants to determine if the content or quality are consistently effective (or ineffective) across children who are similar in terms of diagnoses or classroom placements. Second, there were some time constraints which affected the current study. Data collection began during the last semester of the school year, and students were leaving for summer break approximately 2 months following the beginning of data collection. If more time was allotted for data collection, a maintenance phase may have been conducted as well. If time allowed it also would have been interesting to assess each component of the praise evaluation separately (i.e., behavior specific praise, general praise, enthusiastic praise, neutral praise) using a different design such as a reversal design. The design used in the current study may have also served as a limitation, as well. In the current study there was no manipulation of the variables; therefore, it's difficult to speak to strong internal validity.

Despite limitations and variables that may have affected responding and preference, this study has notable clinical significance. These results add to a body of literature that demonstrates that although type and quality of praise may not have affected responding consistently across participants, all participants' rates of acquisition increased when praise was provided as a reinforcer. Additionally, this study indicates that preference for praise may be directly related to the efficacy of praise and may be affected by the rates of praise that students are exposed to in the classroom. Also, the social validity results were that teachers and mothers preferred praise statements that were enthusiastic. All three parents reported that they felt their child was more motivated and had a better rapport with the experimenter when enthusiastic praise was provided, regardless of content. They also reported the participants seemed more eager to answer correctly during enthusiastic praise sessions, and one parent stated that she felt her child's confidence

increased during enthusiastic praise. Although these reports may not have corresponded directly with the acquisition results, it is important to consider parents' perception of praise delivered to their children, particularly if the acquisition rates are similar across many conditions, such as the results for Dylan. Previous literature has demonstrated that parents may view a teacher providing students with praise, especially enthusiastic praise as more engaged with their child (Clausen, et al., 2007), which is consistent with the results of the social validity assessment in this study. These beliefs can have ongoing effects on the relationships developed between teachers and the parents. In turn, those relationships may affect the relationship between the teachers and students.

In conclusion, the results of this study were consistent with previous research and has clinical implications for both future research and teacher training. The results indicate that praise, in isolation, is effective as a reinforcer for skill acquisition regardless of the content or quality of the statements. This is encouraging because in school setting praise is often the only practical and feasible reinforcer available. Additionally, this study investigated consumer preference for praise type and quality, which sets it apart from other similar studies. The results from this evaluation were that for 2 of 3 participants skill acquisition was higher in the more preferred conditions, which may have further implications regarding the teaching procedures that should be implemented for them. Furthermore, both mothers and teachers collectively demonstrated clear preference for enthusiastic praise; however, the data collected within classrooms indicated that the teachers were delivering general, neutral praise at much higher proportions. This may be a phenomena worth further study as there are possible relationships between the praise delivered in natural settings and the efficacy of praise as a reinforcer and preference for praise. In general, there is still much to be learned about how praise develops as a reinforcer and how that development affect preference and efficacy.

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Tables

Table 1

Ratings on the Social Validity Survey Completed by Participants' Teachers and Parents

| Social Validity Survey Results | | | | | | |
|-----------------------------------|-----------------------------|--------------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | Donna David's Teacher | Sheila David's Mom | Kelly Brenda's Teacher | Cindy Brenda's Mom | Andrea Dylan's Teacher | Iris Dylan's Mom |
| GPN Satisfaction | 5 | 6 | 2 | 6 | 2 | 4 |
| GPE Satisfaction | 7 | 7 | 6 | 6 | 7 | 7 |
| BSN Satisfaction | 5 | 2 | 2 | 6 | 5 | 5 |
| BSE Satisfaction | 6 | 7 | 7 | 6 | 6 | 6 |
| Content Affected Responded | 6 | 7 | 6 | 4 | 2 | 2 |
| Quality Affected Responding | 7 | 7 | 6 | 4 | 2 | 7 |

Table 2

Answers to Open-ended Questions on the Social Validity Survey Completed by Participants' Teachers and Parents

| Social Validity Survey Results | | | | | | |
|--|-----------------------------|--------------------------|------------------------------|--------------------------|------------------------------|------------------------|
| | Donna David's Teacher | Sheila David's Mom | Kelly Brenda's Teacher | Cindy Brenda's Mom | Andrea Dylan's Teacher | Iris Dylan's Mom |
| Was there better learning in one condition? | Yes- GPE and BSE | Yes- not specified | Yes- BSE | No | No | No |
| Did participant enjoy one condition more? | Yes- GPE and BSE | Yes- not specified | Yes- BSE | Yes- BSE | Yes- GPE and BSE | Yes- GPE |
| Did you have a preference for one condition? | Yes- GPE | Yes- GPE and BSE | Yes- BSE | Yes-GPE | Yes-GPE | Yes-GPE |

Figures

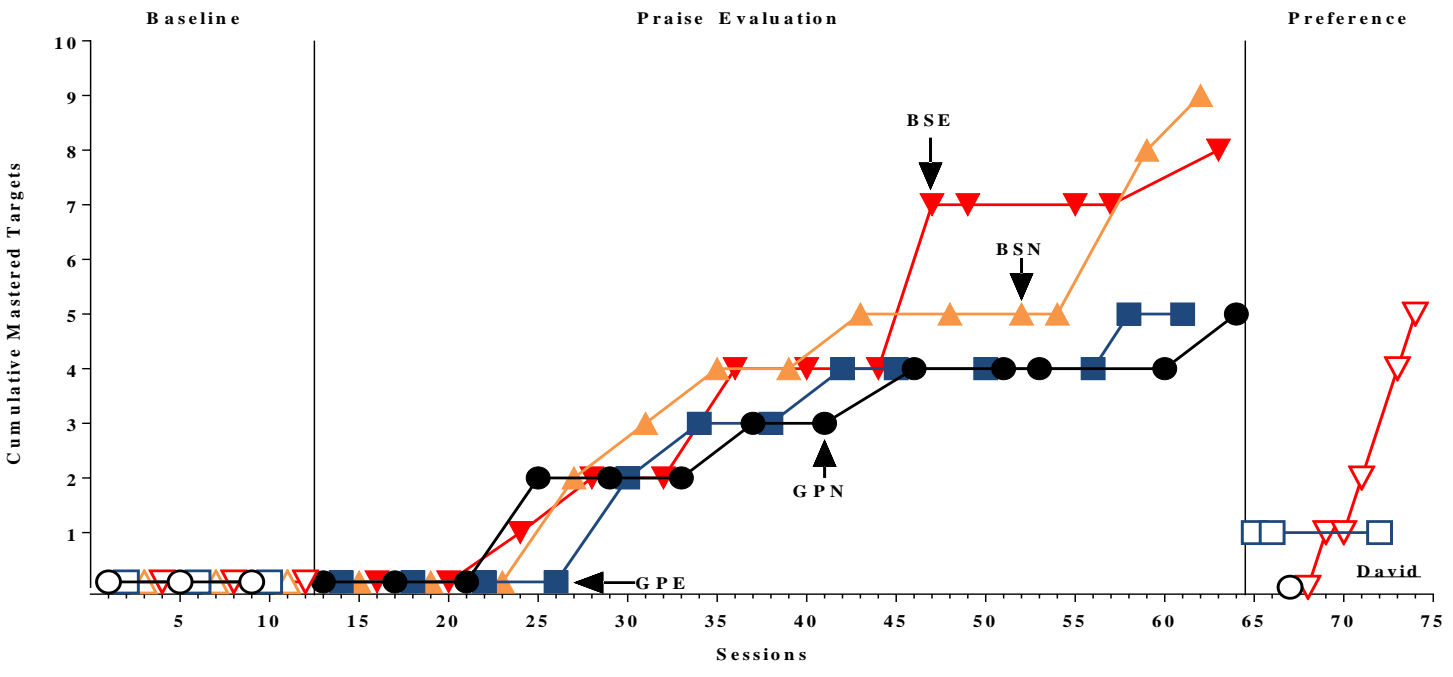


Figure 1. The cumulative mastered targets during baseline, praise evaluation, and praise preference assessment for David.

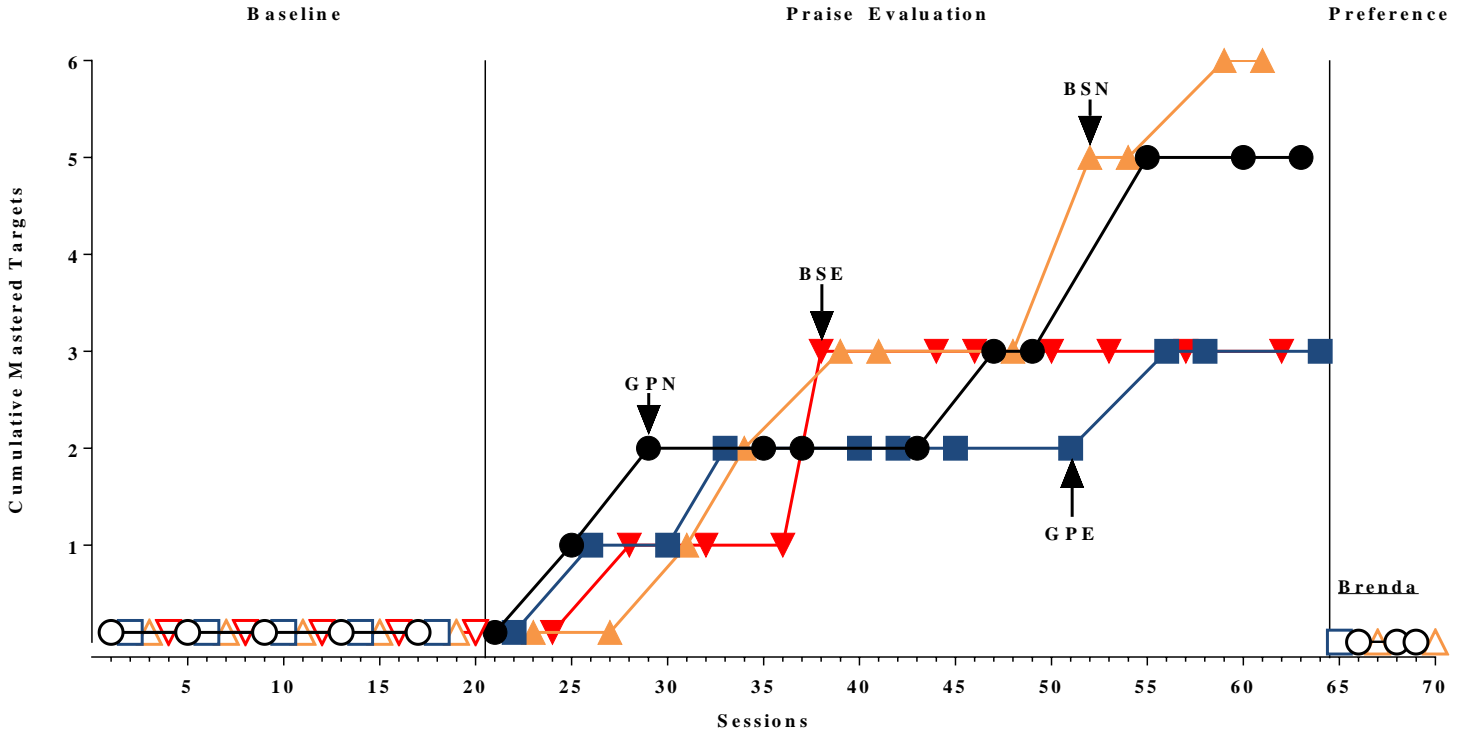


Figure 2. The cumulative mastered targets during baseline, praise evaluation, and praise preference assessment for Brenda.

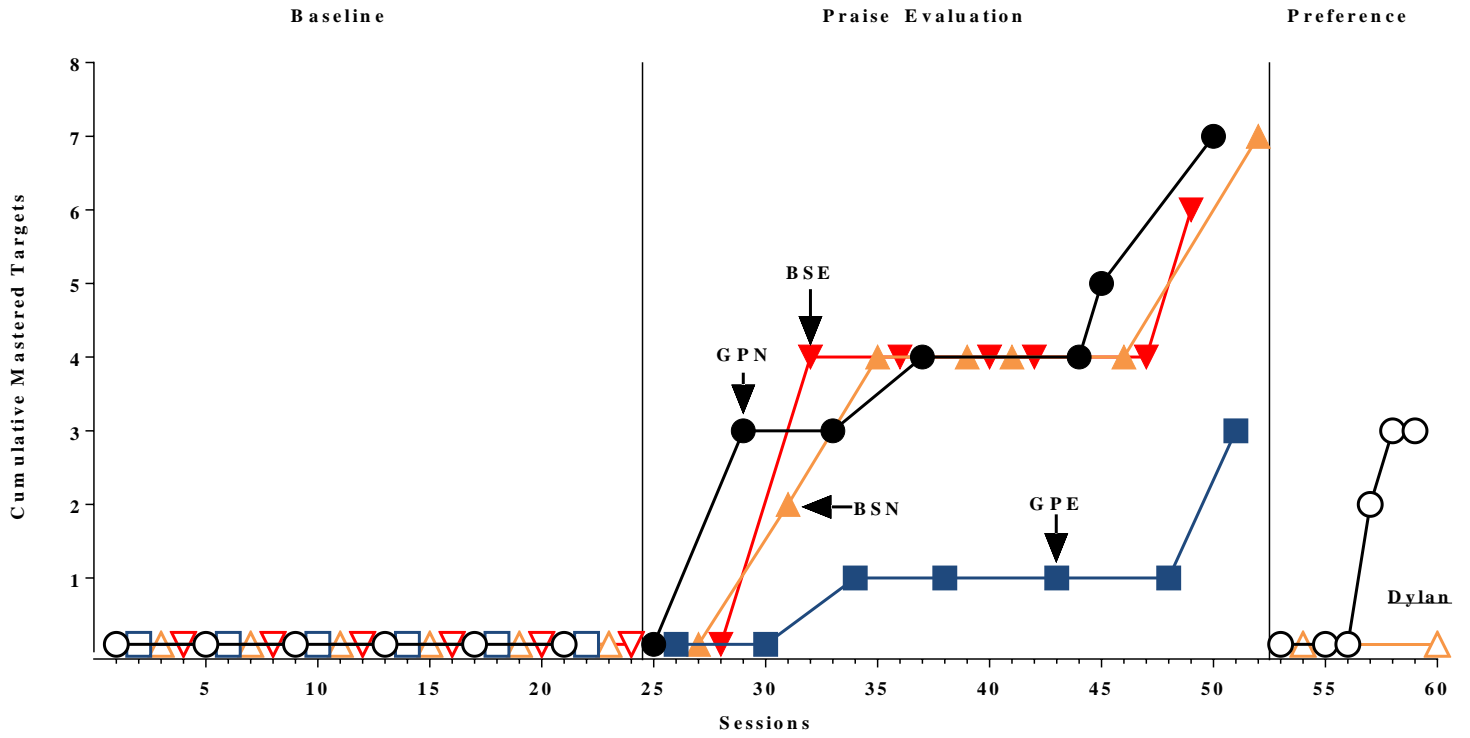


Figure 3. The cumulative mastered targets during baseline, praise evaluation, and praise preference assessment for Dylan.

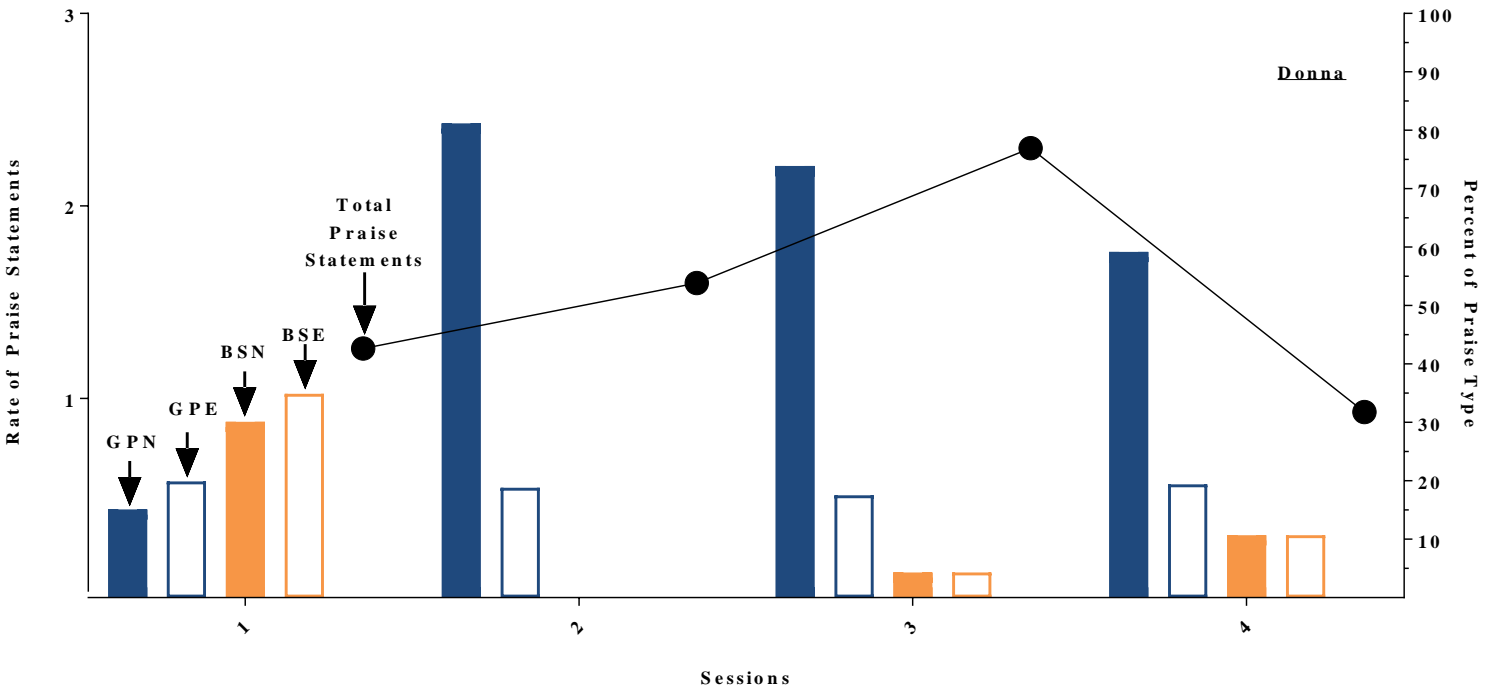


Figure 4. The rate of praise statements and percent of praise type of GPN, GPE, BSN, BSE, and total praise statements for Donna.

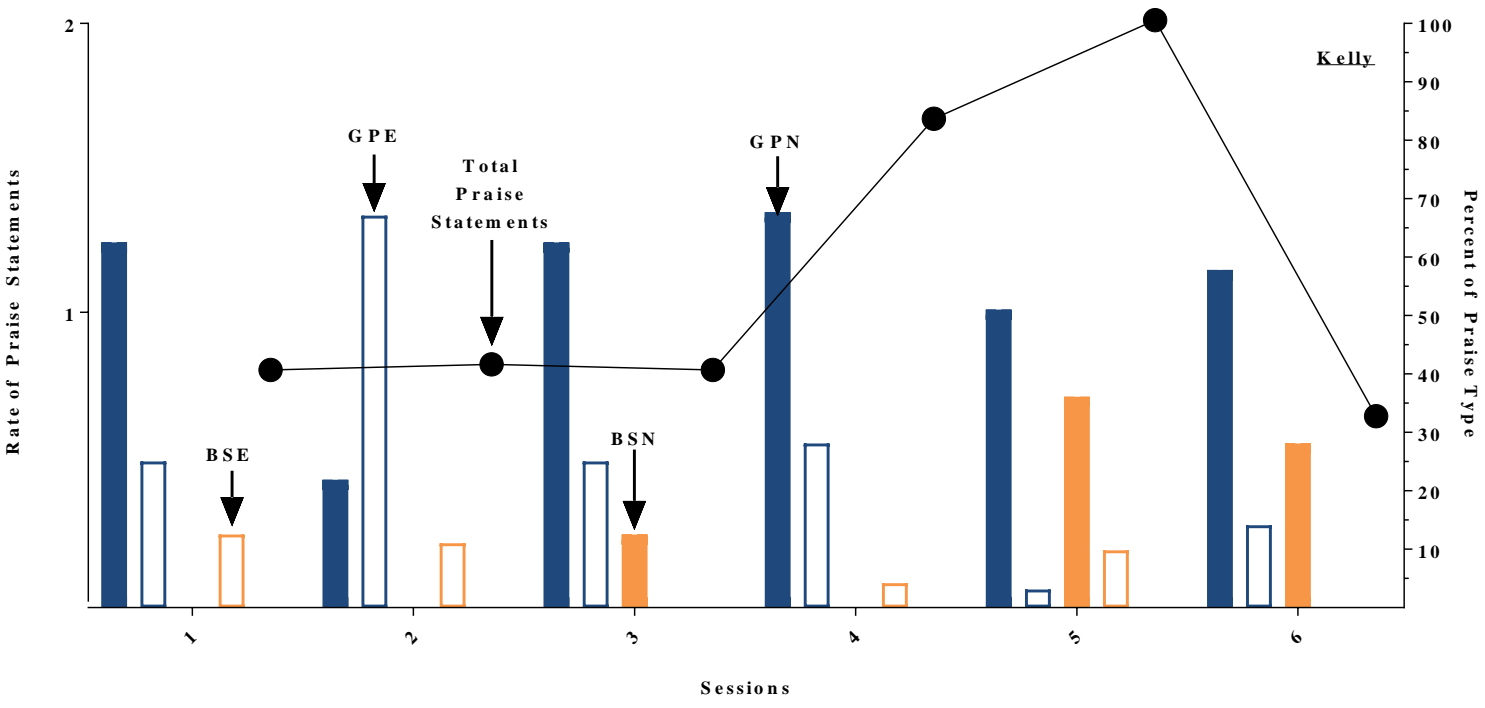


Figure 5. The rate of praise statements and percent of praise type of GPN, GPE, BSN, BSE, and total praise statements for Kelly.

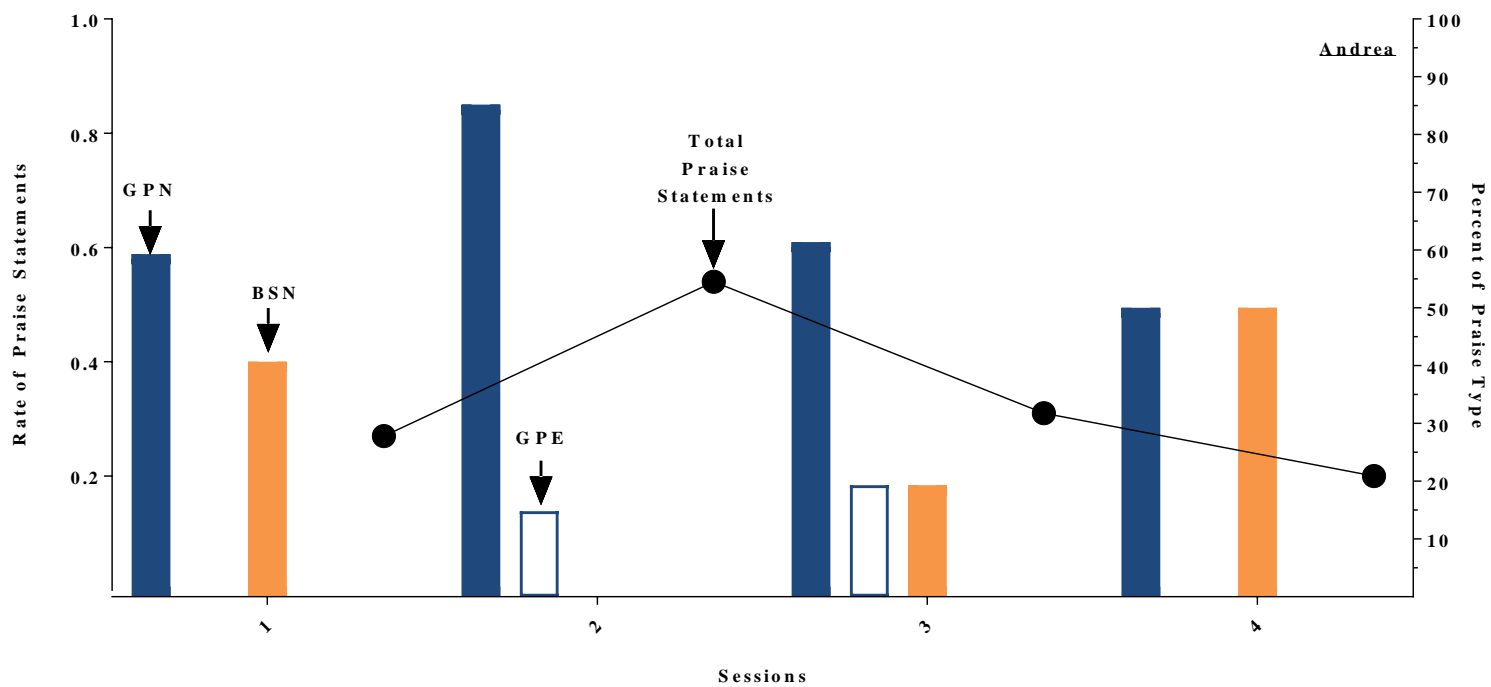


Figure 6. The rate of praise statements and percent of praise type of GPN, GPE, BSN, BSE, and total praise statements for Andrea.

Appendix A: Preassessment Data Sheet

9-Item Paired Preference Assessment

Child: _____

Date: _____

Evaluator: _____

Primary/Reliability

| Item | # Selections | % Selections | Rank |
|------|--------------|--------------|------|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| 9. | | | |

Trials:

Conduct trials left to right

| | | | | | | | |
|-------|-------|-------|-------|-------|-------|-------|-------|
| 7 x 9 | 3 x 6 | 5 x 6 | 7 x 8 | 2 x 3 | 4 x 5 | 1 x 7 | 8 x 9 |
| 3 x 5 | 6 x 8 | 2 x 4 | 1 x 3 | 4 x 6 | 5 x 7 | 6 x 9 | |
| 2 x 9 | 4 x 7 | 1 x 8 | 3 x 7 | 5 x 8 | 1 x 4 | | |
| 6 x 7 | 1 x 5 | 4 x 8 | 2 x 5 | 4 x 9 | | | |
| 5 x 9 | 3 x 8 | 2 x 7 | 1 x 6 | | | | |
| 2 x 8 | 1 x 9 | 3 x 4 | | | | | |
| 3 x 9 | 2 x 6 | | | | | | |
| 1 x 2 | | | | | | | |

Appendix B: Praise Evaluation Data Sheet

Participant Name: _____

Conditions Key: G = General; B=Behavior-specific; N= Neutral; E=Enthusiastic; C=Control/No praise

Observer Key: P= Primary data collector; R= Reliability data collector

Data Key: N= New; C = Correct; I = Incorrect; P= Prompted; M= Mastered

Session#: _____ Condition G/B/N/E/C
Date: _____ Observers: _____ P/R

| # | Target | N | C | I | P | M |
|----|--------|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

Session#: _____ Condition G/B/N/E/C
Date: _____ Observers: _____ P/R

| # | Target | N | C | I | P | M |
|----|--------|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

Session#: _____ Condition G/B/N/E/C
Date: _____ Observers: _____ P/R

| # | Target | N | C | I | P | M |
|----|--------|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

Session#: _____ Condition G/B/N/E/C
Date: _____ Observers: _____ P/R

| # | Target | N | C | I | P | M |
|----|--------|---|---|---|---|---|
| 1 | | | | | | |
| 2 | | | | | | |
| 3 | | | | | | |
| 4 | | | | | | |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |

Appendix C: Social Validity Survey

Social Validity Survey Questions

Instructions: The following survey will ask you 9 questions.

Scale: Using the 1 - 7 scale below, indicate your satisfaction/agreement with each item by choosing the appropriate number. Please be open and honest in your responding.

For Questions 1-4

• 7 – Very satisfied • 6 - Satisfied • 5 - Slightly satisfied • 4 - Neither satisfied nor unsatisfied
• 3 - Slightly satisfied • 2 – Unsatisfied • 1 – Very unsatisfied

For Questions 5-6

• 7 - Strongly agree • 6 - Agree • 5 - Slightly agree • 4 - Neither agree nor disagree • 3 - Slightly disagree • 2 - Disagree • 1 - Strongly disagree

| | |
|------------|--|
| Question 1 | Overall, how satisfied were you with the type of praise provided to your child during __white_____ sessions? _____ |
| Question 2 | Overall, how satisfied were you with the type of praise provided to your child during __brown_____ sessions? _____ |
| Question 3 | Overall, how satisfied were you with the type of praise provided to your child during __pink_____ sessions? _____ |
| Question 4 | Overall, how satisfied were you with the type of praise provided to your child during __red_____ sessions? _____ |
| Question 5 | Do you feel as though content of praise affected responding? _____ Why or why not? |
| Question 6 | Do you feel as though the way praise was delivered affected responding? _____ Why or why not? |

Question 7. Do you think your child learned better in one condition than the others?

Question 8. Do you think your child would enjoy one condition more than the others?

Question 9. Do you have a favorite condition?