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Praise Research Trends and Future Directions: Characteristics and Teacher Training

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Abstract

Teacher praise is an effective classroom management tool. Training teachers to increase their use of praise can improve student disruptive and off-task behavior. The purpose of this article is to examine different characteristics of praise and the training methods used in the literature. Training methods with positive treatment acceptability and demonstrated impact are summarized. Results indicate that most research focuses on behavior-specific, verbal, and contingent praise delivered to individual students. Most training studies used a combination of two or more methods that most commonly included a didactic, feedback, or goal setting component. Only half of the training studies measured treatment acceptability and the majority of these ratings were positive. Most studies training teachers to use praise had positive results. More research focused on infrequently studied praise characteristics (e.g., gestures, physical, and private) and training methods (e.g., in vivo, self-monitoring, and incentives) is needed. Implications for future praise research are presented.

Keywords

teacher praise, praise characteristics, praise training methods, praise research, professional development

Increasingly, teachers are expected to include students with diverse academic and behavioral needs into the general education setting (Cheney & Barringer, 1995; McLeskey, Henry, & Hodges, 1998; Sawka, McCurdy, & Mannella, 2002). The demand to include students with disabilities comes with an increased need to manage student behavior problems. Unfortunately, many teachers are not prepared to meet this challenge (Begeny & Martens, 2006; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009; Westling, 2010). In fact, many teachers report that managing student behavior is one of the most difficult parts of their job (Reinke, Stormont, Herman, Puri, & Goel, 2011). For these reasons, identifying strategies that promote positive student outcomes, such as praise, is critical. Currently, however, many gaps in the literature exist that require additional research and development to ensure the effects of praise are maximized. Examples of these areas include determining the most important praise characteristics and most effective training methods. Prior to determining which characteristics and training methods are most effective, it is important to survey the praise literature to determine which praise characteristics and training methods have been studied. By doing this, common definitions for praise characteristics and training can be established, which will help to guide future research.

Promoting Positive Student Behavior

Teacher praise is an expression of approval or admiration that goes beyond feedback for a correct response (Brophy, 1981a, 1981b; Reinke, Lewis-Palmer, & Merrell, 2008). Researchers have been studying teacher praise for more than five decades with many studies providing evidence of a functional relation between increased rates of praise and positive student outcomes (Becker, Madsen, Arnold, & Thomas, 1967; Dufrene, Lestremau, & Zoder-Martell, 2014; Reinke et al., 2008; Sutherland, Wehby, & Copeland, 2000). Praise has been demonstrated to be effective on a range of behavioral outcomes for students in general and those with emotional and behavioral disorder (EBD; Sutherland, Lewis-Palmer, Stichter, & Morgan, 2008; Sutherland & Oswald, 2005). Teacher praise is also associated with positive teaching environments, enhanced teacher–student relationships, and increases in instruction

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time (Conroy, Sutherland, Snyder, Al-Hendawi, & Vo, 2009; Hall, Lund, & Jackson, 1968; Rathel, Drasgow, Brown, & Marshall, 2014).

In their review of classroom management strategies, Epstein, Atkins, Cullinan, Kutash, and Weaver (2008) identified teacher praise as one of the five effective strategies that promote positive student behavior. Epstein and colleagues indicated that there is strong evidence for teaching and reinforcing skills to increase appropriate student behavior. When students are explicitly taught what behaviors to demonstrate at school, and teachers positively reinforce these behaviors (e.g., praise), students are more likely to demonstrate appropriate behaviors and thus experience social and behavioral success (Epstein et al., 2008). Teacher praise is especially important to use with students identified with EBDs because students with EBDs are less likely than their peers to receive positive teacher attention (Sutherland et al., 2008; Sutherland & Oswald, 2005).

Simonsen, Fairbanks, Briesch, Myers, and Sugai (2008) conducted a systematic review of the literature and identified 20 evidence-based classroom management practices. Consistent with Epstein et al. (2008), Simonsen et al. identified specific and/or contingent praise as an evidence-based practice within the continuum of strategies designed to increase appropriate behavior. Based on the studies reviewed, Simonsen et al. concluded (a) praise may be most effective when it is specific and used with other strategies (i.e., classwide group contingencies), (b) increased rates of specific praise were associated with on-task behavior, and (c) implementing specific contingent praise and establishing classroom expectations led to positive student academic and social outcomes.

Praise Characteristics

Praise is a valuable and effective strategy that prevents and decreases student problem behavior. However, the literature primarily focuses on two types of praise: general praise (GP) and behavior-specific praise (BSP). GP is a general statement of approval, whereas BSP describes approval by definitively identifying a characteristic of the child or behavior demonstrated by the child (e.g., "You lined up so quietly and quickly," "Thank you," or "Good job putting your homework in your homework folder"; Brophy, 1981b; Moffat, 2011; Reinke, Lewis-Palmer, & Martin, 2007).

Early researchers (e.g., Brophy, 1981b; White, 1975) defined praise by verbal remarks or statements (Beaman & Wheldall, 2000); however, there are other ways teachers can communicate their approval (e.g., giving a high-five, writing a note, patting a child's back). Nafpaktitis, Mayer, and Butterworth (1985) provided a praise definition that included gestures and different praise modalities (i.e., "verbal praise, approving gestures, physical contact, recognition, and delivery of token or tangible rewards," p. 363); however, the literature suggests that most studies focus on teachers' verbal use of praise.

There is consensus that praise is most reinforcing when it is behavior-specific, contingent, genuine, and directed toward an academic skill or task (Brophy, 1981a, 1981b; Chalk & Bizo, 2004; Skinner, 1953; Sutherland, Copeland, & Wehby, 2001). Despite these recommendations, few, if any, studies have experimentally manipulated praise characteristics, possibly because some of the characteristics purported to be effective are difficult to measure (e.g., sincerity) or maybe because using BSP (rather than GP) makes sense logically (i.e., children are more likely to benefit from praise when it is immediate and salient). Nonetheless, without further study, it is unclear whether these characteristics, or combination of characteristics, positively influence student behavior. Moreover, it is unclear whether additional praise characteristics, such as delivery (e.g., to an individual or the entire class) or modality (e.g., written or spoken), are important. Floress and Jenkins (2015) and Floress, Berlinghof, Rader, and Riedesel (in press) examined kindergarten and preschool teachers' natural use of praise and found that teachers delivered more praise to individual students (compared with large groups or small groups of students). Although these studies identify the frequency of teachers' praise delivery, additional research is needed to determine whether delivery type influences the effectiveness of praise on student behavior. Systematically surveying the literature to determine what praise characteristics have been studied would help organize this area of research and identify potential characteristics that would be important to study.

Praise Training

Identifying praise characteristics that positively influence student behavior is only helpful if we know how to effectively increase and maintain teachers' use of praise. There are a variety of reasons why teachers have difficulty implementing evidence-based interventions accurately and reliably: (a) they may lack proper training (Hiralall & Martens, 1998; Maheady, Harper, Mallette, & Winstanley, 1991; Martinussen, Tannock, & Chaban, 2011), (b) they may have difficulty generalizing and maintaining skills after training has ended (Noell et al., 2000), (c) they may have difficulty generalizing or maintaining skills because they require more intensive or direct training procedures (Dufrene et al., 2012; Stormont, Smith, & Lewis, 2007), and (d) they may find certain training methods less acceptable or effective and not benefit from training or may be less likely to implement what they learned during training (Reid, 2004; Strohmeier, Mule, & Luiselli, 2014).

There are two types of teacher training, indirect and direct methods. Indirect training consists of providing teachers with content knowledge and background

information on the intervention. These presentations occur out of the educational context and rely on descriptive examples of how to implement the intervention. In contrast, direct training procedures include additional supports to ensure the teacher is implementing the intervention accurately and reliably in the classroom (Dufrene et al., 2014; Sterling-Turner, Watson, & Moore, 2002). Examples of direct training procedures include observing the teacher implement the intervention and providing feedback or directly coaching the teacher to implement the intervention in the classroom. Indirect training alone may not be as effective as direct training methods to increase teacher praise and decrease student disruptive behavior; however, further research in this area is needed (Dufrene et al., 2012; Hiralall & Martens, 1998; Stormont et al., 2007).

Prior to determining which training methods are most effective, it is important to survey the praise literature to determine which methods have been studied. Compiling a list of praise training methods and operational definitions would increase the consistency in how praise training is conducted and help researchers make comparisons between studies. Currently, researchers use various terms for similar training methods (e.g., coaching and direct behavioral consultation). Having common definitions would help refine research in this area, help identify training methods that require further study, and ultimately determine which training methods are most effective and acceptable to teachers.

Social Validity

When training teachers to use an evidence-based strategy, it is important to consider social validity because teachers are more likely to benefit from training and implement the strategy when they find the training method acceptable (Reid, 2004; Strohmeier et al., 2014). Several review or meta-analytic studies have documented that performance feedback, a direct training procedure, improves teacher treatment integrity (Solomon, Klein, & Politylo, 2012; Stormont, Reinke, Newcomer, Marchese, & Lewis, 2015). These findings are consistent with findings reported by Strohmeier and colleagues (2014) who surveyed 44 special education service providers using a social validity assessment. Service providers ranked four training methods (performance feedback, avoiding performance feedback meetings, online training, and financial incentive) from most to least effective. Results indicated that the service providers judged performance feedback as most effective. Service providers also rated each training method in terms of how likely it would increase their correct implementation of the intervention using a 4-point scale ranging from "very unlikely" to "very likely." Results indicated that service providers also judged performance feedback as the most likely to increase their treatment integrity of the intervention. These findings emphasize that teachers may prefer direct training methods, such as performance feedback, and that it is important to assess social validity when designing training programs because training acceptability is likely to influence treatment integrity.

Purpose of the Review

Teachers are challenged with meeting and supporting the diverse needs of all students, and many teachers report that they are unprepared or would benefit from additional training in behavior management. For this reason, it is important to study easy-to-implement strategies that prevent student behavior problems, like teacher praise. Unfortunately, there are gaps in the praise literature that remain unanswered. For instance, most research has focused on GP and BSP with the recommendation that praise be specific; however, it is unclear whether additional praise characteristics might positively influence student behavior. Teacher training is another area that requires additional study. Methods are commonly described as either indirect or direct, but it is unclear which specific methods are most effective and have the best teacher acceptability. Before answering these questions, it would be helpful to determine which praise characteristics and training methods have been studied. A systematic review of the praise literature that gathers this information would establish common definitions which could be used to compare findings across studies, identify areas of future research, and ultimately influence best practice. Therefore, the primary purpose of this review is to systematically examine the empirical praise literature to identify praise characteristics and teacher training methods which have been studied. The following research questions will be answered:

Research Question 1: What are the most frequently studied praise characteristics in the empirical literature?
Research Question 2: What are the most frequently studied praise training methods in the empirical literature?
Research Question 3: Which praise training methods have assessed social validity and which have favorable treatment acceptability ratings?
Research Question 4: Which praise training methods have positive findings?

Method

Systematic Review Procedures

A systematic review was conducted using EBSCOhost (including PsycINFO, PsycARTICLES, ERIC, MasterFILE), Google Scholar, and a manual search of articles cited in reference sections of articles, to identify research articles that have examined teacher praise (see Figure 1 for a visual

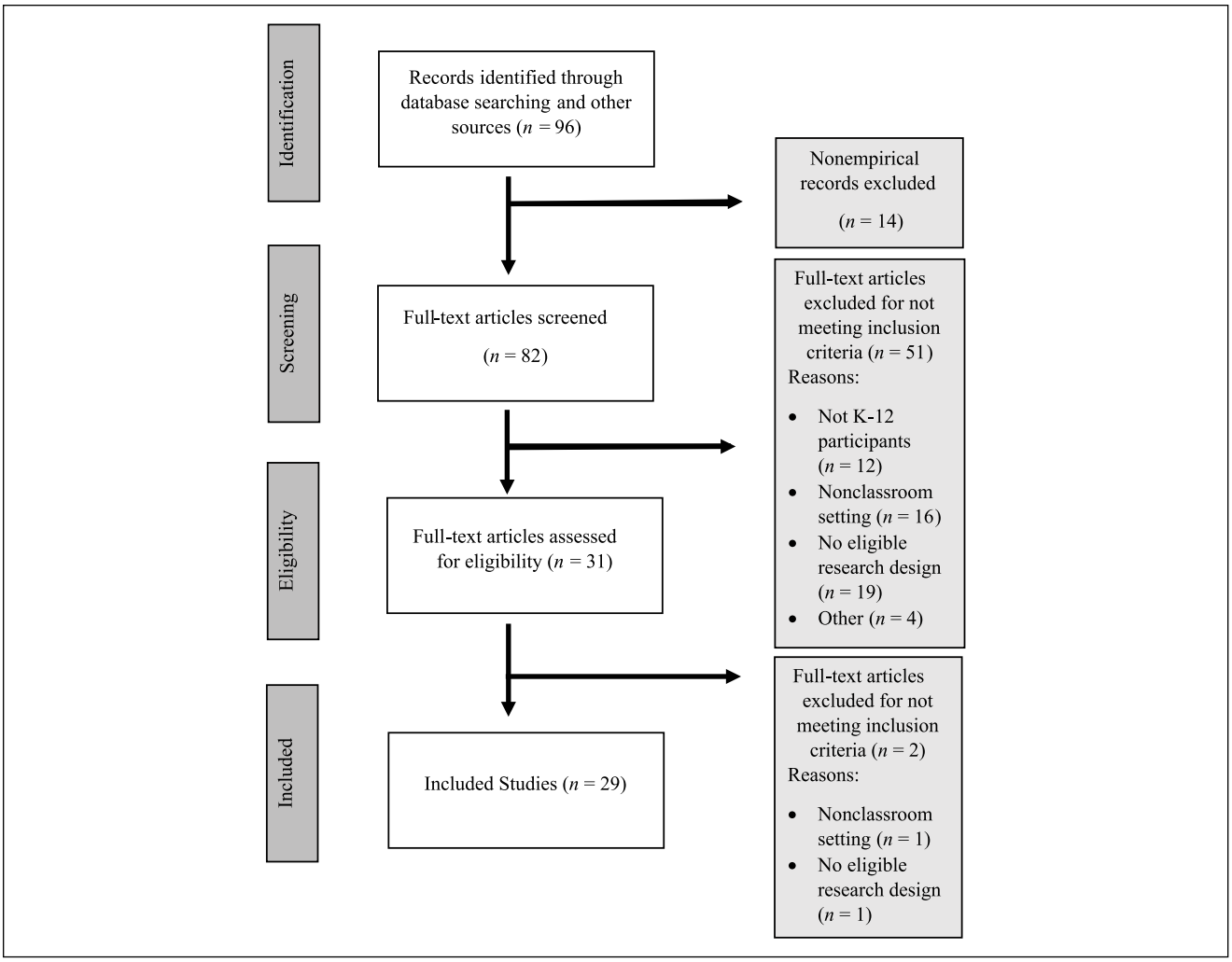

Figure 1. Systematic review processes.

representation of the review process). The following search terms were used during searches: praise, teacher praise, type of praise, behavior-specific praise, labeled praise, general praise, unlabeled praise, praise training, classroom praise, classroom management, classroom behavior management, praise characteristics, teacher praise training, and student praise, which resulted in the identification of 96 articles.

Inclusion criteria. To be included in the review, praise needed to be the primary independent variable of the study. Studies that introduced an additional independent variable (e.g., training, coaching) to increase teachers' praise were included. Studies that examined teacher praise but did not train teachers to increase their use of praise were also included. For example, studies that used direct observation to determine teacher base-rates of praise or studies that examined praise in relation to another variable (e.g., teacher reprimand, student achievement, student disruptive behavior) were included for review. Research articles published in peer-reviewed journals from 1981 to 2015 were included to examine the research published since Brophy's (1981b) seminal review of teacher praise.

Exclusion criteria. Articles were excluded if they met any of the following criteria: The article was not empirical and did not include original data (e.g., reviews of praise or articles giving suggested tips on how to implement praise). The research did not use a group or single-subject research design (e.g., nonexperimental case studies were excluded), praise was not the primary independent variable studied, the study was in a language other than English, non-peer-reviewed studies, studies that took place in nonschool settings, studies that took place with noneducator participants (e.g., parents), and studies where children were taught to change their behavior in an effort to increase teacher praise.

Two school psychology graduate students reviewed each of the 96 articles and eliminated nonempirical articles first (n = 14). Each of the remaining 82 articles was reviewed and 51 articles were eliminated because of not meeting inclusion criteria (see Figure 1). Both graduate

Table 1. Operational Definition of Praise Characteristics.

Characteristics	Definition	Examples
Behavior-specific	Praise that explicitly describes the student's behavior and the approval of that behavior. Studies that mentioned specific praise or provided an example of specific praise were coded as behavior-specific	"Nice job pushing in your chair" "Thank you for helping Jenny with her math problem"
General	A broad statement of approval that does not specifically identify the behavior that was recognized. Studies that mentioned general praise or provided an example of general praise were coded as general	"Nice job" "Awesome" "Good"
Public	Praise delivered loud enough so that all students in the class are aware that the student, for which the praise was intended, was praised. Studies that mentioned public praise were coded as public	
Private	Praise delivered quietly so that only the student(s) for who(m) the praise was intended hears the praise. Studies that mentioned private praise were coded as private	Private praise could be delivered to an individual or small group of students
Verbal	Praise delivered vocally using words spoken out loud. Studies that explicitly used the term "verbal" or "praise statement" in their definition of praise were coded as verbal	Examples of teacher statements (e.g., "Nice job writing so neatly!" or "Good work")
Gesture	Praise delivered through a nonverbal hand signal or motion. Studies that included the term "gesture" in their definition of praise were coded in the gesture category	Thumbs up "Air" hi-five A-Okay gesture
Tangible	Praise delivered by giving a physical item. Tangible was coded if the study described a physical item (e.g., sticker) as part of their definition of praise	Sticker, gold star, good behavior note Student is directed to "move their stick" or put a "marble in a jar"
Physical	Praise delivered through physical contact	Pat on the back Hi-five Fist bump
Written	Praise that is written	Praise note Praise written on the board Praise written on the top of student's paper
Individual student	Praise delivered to a single student. Studies that gave an example of praising individual students or indicated that praise was delivered to individual students were coded as individual student	"Joe, nice job lining up so quickly" "Amy, that's awesome"
Group	Praise delivered to more than one student. Studies that indicated that multiple children could be praised at the same time or praise could be delivered to the entire class	"I like how everyone is so quiet" "Nice work, girls!"
Contingent	Praise delivered based on an appropriate behavior that the student displayed. Studies that indicated that praise was measured when students demonstrated appropriate social, academic, or compliant behaviors were coded as contingent	

Note. A teacher's praise strategy may employ a variety of the praise characteristics described above. Each praise characteristic defined is not mutually exclusive and many are used in combination.

students agreed that the 31 remaining articles met inclusion criteria. The first author reviewed the 31 articles and determined that 29 articles met criteria. Together, all three reviewers discussed the two articles in question and ultimately decided to exclude them from review. Interrater agreement, which was calculated by obtaining a percentage of discrepancy between raters, was 93% (Cooper, Heron, & Heward, 2007).

Coding Procedures

To answer the first research question, what are the most frequently studied praise characteristics, the primary investigator and a graduate student individually coded all 29 articles using the praise characteristic definitions described in Table 1. To answer the second research question, what are the most frequently studied praise training methods, 24

Table 2. Operational Definition of Praise Training Methods.

Training method	Definition	Examples
Didactic	Training included educating the teacher on how to praise and the benefits of praise	The teacher is provided with praise examples and nonexamples, praise is modeled, and/or role-playing how to deliver praise takes place
In vivo	The teacher receives guided instruction on using praise in real time with the use of an electronic hearing aid devise (e.g., bug in the ear) or by standing close enough to the teacher to provide guidance on using praise	A consultant verbally provides teachers praise statements (e.g., Johnny, nice job getting started right away) and prompts the teacher to repeat the praise statement verbatim A consultant prompts the teacher to carry out a praise directive (e.g., Praise Leah, she is sitting "crisscross applesauce")
Self-monitoring	The teacher is taught to track his or her implementation of praise. Self-monitoring was coded whether teachers were taught to monitor their praise in real time (e.g., during instruction) or at a later time by watching video of themselves	The teacher uses a handheld counter to keep track of the number of times they praise students The teacher watches a video or audio recording of themselves and later watches or listens to the recording while tallying the number of times they praised during a specified time period
Goal setting	A praise criterion is established (e.g., three praises per 10 min)	Praise criterion selected based on teacher's baseline rate of praise, the previous weeks' praise rate, and/or whether or not the teacher thought the criterion was obtainable
Teacher incentive	A reward system where teachers earn incentives for praising students	Gift cards, classroom supplies
Feedback	The teacher is provided verbal, written (e.g., email), or visual (e.g., graphs) information regarding their implementation of praise in the classroom[a]	The teacher received praise and/or constructive criticism based on their praise implementation in the classroom
Prompts	The teacher receives a cue or signal to praise students in real time	Prerecorded audio cues (e.g., "beep tape"), a MotivAider® (i.e., a device worn at the waist that vibrates at preset time intervals), physically gesturing (e.g., consultant at back of classroom raises arm), or visual cues such as cards or posters on the walls in the classroom or school with specific praise examples
Combination	If the independent variable for a study had two or more training methods described above, it was coded as Combination	

[a]If feedback was provided as part of didactic training only, but not provided when the teacher implemented praise in the classroom (i.e., with students), feedback was coded as Didactic.

(of the 29) articles were coded using the praise training definitions described in Table 2. The same 24 articles were coded to determine which training methods had favorable treatment acceptability ratings (Research Question 3) and positive findings (Research Question 4). Interrater agreement was calculated for each research question.

Coding Schemes

Praise characteristic. The coding scheme was developed based on the researchers' direct experience collecting praise rates in classrooms, reviewing the praise literature, and roundtable discussions. Through this process, the researchers determined that praise could be measured beyond type (e.g., general and behavior-specific). For instance, the modality in which praise is given, the target group, delivery type, and whether praise was contingent on student behavior were all discussed and then more specific, nonmutually exclusive categories were proposed. All 29 articles were coded for praise characteristic. The codes for this domain included (a) behavior-specific, (b) general, (c) public, (d) private, (e) verbal, (f) gesture, (g) tangible, (h) physical, (i) written, (j) individual student, (k) group of students, and (l) contingent. See Table 1 for the 12 operational definitions used to code praise characteristics.

To identify which praise characteristics were considered in each research study, the raters consulted the authors' description of the dependent variable to determine how teacher praise was defined and used the praise characteristic operational definitions (see Table 1) to determine which

were used in the study. For example, if a study defined praise as ". . . a statement or gesture of approval that specifically described the appropriate academic or social behavior displayed by the student" and provided an example "Sam, thank you for pushing in your chair," the following characteristics would be tallied for that article: behavior-specific, verbal, gesture, individual, and contingent. The following characteristics were not mentioned in the praise definition (i.e., written, general, physical, tangible, and group) and could not be gleaned from the examples provided; therefore, these characteristics would not be tallied. Multiple praise characteristics could be identified in a single study. To calculate a percentage for each characteristic, the studies that considered that characteristic were added together and divided by the total number of studies (i.e., 29) and multiplied by 100.

Praise training. Five of the 29 articles did not provide training to teachers. As such, 24 (of the 29 articles) were coded for praise training. For example, an article that examined teachers' natural use of praise in the classroom through direct observation or an article that examined the statistical relation between teacher praise and student on-task behavior (but did not train the teacher to increase their use of praise) was not coded for praise training. Based on the first author's experience providing direct and indirect training, reviewing the training literature, and roundtable discussions, the researchers determined that direct and indirect training methods could be broken down into eight categories: (a) didactic, (b) in vivo, (c) self-monitoring, (d) goal setting, (e) teacher incentive, (f) feedback, (g) prompts, and (h) combination. See Table 2 for the eight definitions used to code praise training.

To identify which praise training methods were considered in each research study, the raters consulted the authors' description of the independent variable. The description of the independent variable was compared with the praise training operational definitions (see Table 2) to determine which were used in the study. Therefore, a study which trained teachers to use BSP by first explaining why praise is beneficial and giving examples, setting a rate of praise goal, and then providing teachers feedback on whether they met their goal following weekly observations would include the following training methods: didactic, goal setting, and feedback. Multiple praise training methods could be identified in a single study. If a study described two or more training methods, it was also coded as combination. To calculate a percentage for each training method, the studies that described that training method were added together and divided by the total number of studies (i.e., 24) and multiplied by 100.

Social validity. To identify which articles reported social validity, the raters reviewed the articles for the presence or absence of a treatment acceptability measure and results. If a treatment acceptability measure was reported, the name of the measure was gathered along with whether it was developed specifically for the study or was an existing measure (e.g., *Treatment Acceptability Rating Form–Revised* [TARF-R]; Reimers & Wacker, 1988). In addition, overall acceptability was summarized, and themes of satisfaction and dissatisfaction were identified.

Praise training results. Visual analysis; Fisher, Kelley, and Lomas's (2003) *conservative dual-criterion* (CDC) method; and operational definitions (i.e., positive, neutral, and negative; see below) were used to code findings reported in praise training articles. Fisher et al.'s CDC method includes four steps: First, the number of data points in the treatment phase is counted; second, the number of points needed to predict the direction of the treatment effect is determined (see Fisher et al. for criteria); third, the number of points in the treatment phase that is above (because praise is expected to increase) the level and trend lines is counted; and fourth, if the number of data points from Step 3 is greater or equal to the number required in Step 2, it is determined that systematic change has occurred from baseline.

Results were coded as positive, neutral, or negative using definitions from Stormont et al. (2015). Positive findings were coded if the direction of the results indicated consistent changes in the dependent variable. If there were multiple dependent variables (e.g., teacher praise and student outcome variables), rating decisions were made based on changes in teacher praise. Neutral findings were coded if there was not a change in the dependent variable or if findings were inconsistent (e.g., outcomes were inconsistent across study participants). Negative findings were coded if no positive outcomes were documented.

Interrater Agreement

Cohen's kappa coefficient was used to measure interrater agreement between two raters. Although Cohen's kappa is a superior method of assessment (compared with percent agreement) because of its ability to account for chance, kappa is limited when using small sample sizes (Sattler, 2002), as demonstrated with this data set. Kappa can range from −1 to +1, where 0 represents the amount of agreement that can be expected from random chance, and 1 represents perfect agreement between raters (Cohen, 1960). When there was little or no variation in coding (e.g., both coders indicate that all studies or almost all studies meet coding criteria), kappa is poor. In other words, even though agreement between raters is 100%, kappa is 0 because the raters' agreement was no better than chance. Therefore, when estimating confidence intervals around the kappa estimate, a minimum of 20 (Blackman & Koval, 2000; Donner, 1998) and ideally 25 to 50 rated cases are preferred (Donner & Eliasziw, 1992).

Praise characteristics. For praise characteristics, a kappa value of 0.865 was obtained across all 12 praise characteristic categories. For the contingent praise category, both raters agreed that all 29 articles included contingent praise, and therefore a kappa value of 0 was obtained. The individual praise category (0.163) was the only other category to fall below 0.40. For all other praise characteristic categories, kappa ranged from 0.532 to 1.0 with a median of 0.713, indicating adequate agreement across raters (Landis & Koch, 1977).

Praise training. For praise training, a kappa value of 0.826 was obtained across all eight categories. For the didactic category, both raters agreed that 23 of the 24 articles contained a didactic training component, and therefore kappa was calculated at 0. The prompt training category (0.25) was the only other category to fall below 0.40. For the remaining praise training categories, kappa ranged from 0.64 to 1.0 with a median of 0.91, indicating substantial agreement across raters.

Social validity and praise training results. The two raters also independently reviewed the 24 praise training articles and rated social validity (whether each of the articles measured social validity) and results (whether overall findings were positive, neutral, or negative). A kappa value of 0.917 was obtained for social validity and 0.538 for results indicating substantial agreement and moderate agreement, respectively (Landis & Koch, 1977).

Results

Twenty-nine studies published between 1981 and 2015 were reviewed, and an increasing trend of published praise studies beginning in 2006 was apparent (see Table 3 and Figure 2). All 29 articles were coded for praise characteristics, and 24 (of the 29) articles were coded for praise training (see Figures 3 and 4). The five studies that were not coded for praise training have gray-shaded rows under the "Praise Training Method," "Social Validity," and "Results" columns (see Table 3; Burnett & Mandel, 2010; Floress & Jenkins, 2015; Nafpaktitis et al., 1985; Reinke, Herman, & Stormont, 2013; Sutherland, Wehby, & Yoder, 2002).

Praise Characteristics

Results for the first research question (What are the most frequently studied praise characteristics in the empirical literature?) are presented in Figure 3. The praise characteristics most frequently described in the 29 studies included contingent (100%), behavior-specific (90%), individual (97%), and verbal (90%). The most infrequent characteristic considered included physical (17%; Blaze, Olmi, Mercer, Dufrene, & Tingstom, 2014; Floress & Jenkins, 2015; Nafpaktitis et al., 1985; Reinke et al., 2013; Reinke et al., 2008), written (14%; Caldarella, Christensen, Young, & Densley, 2011; Howell, Caldarella, Korth, & Young, 2014; Nelson, Young, Young, & Cox, 2010; Reinke et al., 2008), private (3%; Blaze et al., 2014), and public (3%; Blaze et al., 2014).

Praise Training

Results for the second research question (What are the most frequently studied praise training methods in the empirical literature?) are presented in Figure 4. The majority (88%) of the praise training studies used two or more praise training methods. Fifty-eight percent of the studies used three or more training methods and 25% used four or more training methods. Only four studies (17%) were coded to have implemented a single training method (Caldarella et al., 2011; Coffee & Kratochwill, 2013; Howell et al., 2014; van der Mars, 1989). Three of those studies used a didactic training method and one of the studies (van der Mars, 1989) used a prompt training method. The praise training method most frequently used was didactic (96% of the studies had a didactic component). The second and third most frequently used training methods were feedback (67%) and goal setting (54%). The training methods used least frequently included in vivo (17%; Dufrene et al., 2014; Dufrene et al., 2012; Pisacreta, Tincani, Connell, & Axelrod, 2011; Tiano & McNeil, 2006), self-monitoring (13%; Briere, Simonsen, Sugai, & Myers, 2015; Reinke et al., 2008; Thompson, Marchant, Anderson, Prater, & Gibb, 2012), and incentive (4%; Nelson et al., 2010). Only one study provided teachers an incentive (i.e., entered in a drawing for gift cards to local restaurants) for using praise in the classroom (Nelson et al., 2010).

Social Validity

The third research question (Which praise training methods have assessed social validity and which have favorable treatment acceptability ratings?) was answered by reviewing praise training studies to determine which methods reported social validity results. Of the 24 studies reviewed, half (54%) collected and reported treatment acceptability data. Of those 13 studies, the training methods included didactic (100%), feedback (77%), goal setting (62%), prompt (38%), and self-monitoring (23%) (see Table 3). No social validity data were collected for studies using in vivo and incentive training methods. Of the 13 studies, five (Blaze et al., 2014; Briere et al., 2015; Coffee & Kratochwill, 2013; Duchaine, Jolivette, & Frederick, 2011; Hiralall & Martens, 1998) used or modified an existing *Treatment Acceptability Scale*, including the TARF-R (Reimers & Wacker, 1988); the *Intervention Rating Profile–15* (IRP-15; Martens, Witt, Elliott, & Darveaux, 1985); and the *Consultation Satisfaction Questionnaire* (CSQ; Sheridan & Steck, 1995).

All 13 studies reported that overall teacher acceptability toward the intervention implemented was favorable or satisfactory, and most ratings indicated that teachers agreed with the utility of using praise and would continue to use it

Table 3. Summary of Praise Studies Reviewed.

		Praise characteristic												Praise training method									
First author	Year	BP	GP	PU	PR	VR	GE	TA	PH	WR	IN	GR	CO	Di	Iv	Sm	Gs	Ti	Fe	Pr	Co	Social validity	Results
Allday	2012	x	x			x					x		x	x			x		x		x	Yes	Neutral
Armstrong	1988	x	x			x					x	x	x	x			x		x	x	x	No	Neutral
Blaze	2014	x		x	x	x			x		x		x	x						x	x	Yes	Positive
Briere	2015	x				x	x				x		x	x		x	x		x		x	Yes	Positive
Burnett	2010	x	x			x					x		x										
Caldarella	2011	x						x		x	x		x	x								No	Positive
Coffee	2013					x					x	x	x	x			x				x	Yes	Neutral
Duchaine	2011	x				x					x	x	x	x			x		x		x	Yes	Positive
Dufrene	2012	x				x					x		x	x	x						x	No	Positive
Dufrene	2014	x				x					x		x	x	x				x		x	No	Positive
Ferguson	1992					x					x		x	x			x				x	No	Neutral
Floress	2015	x	x			x	x	x	x		x	x	x										
Fullerton	2009	x	x			x					x		x	x					x	x	x	Yes	Positive
Hiralall	1998	x				x							x	x			x		x	x	x	Yes	Positive
Howell	2014	x	x					x		x	x		x	x								Yes	Positive
Matheson	2005	x	x			x					x	x	x	x			x		x		x	Yes	Positive
Moffat	2011	x				x					x		x	x			x		x		x	No	Positive
Nafpaktitis	1985					x	x	x	x		x		x										
Nelson	2010	x						x		x	x		x	x				x			x	No	Positive
Pisacreta	2011	x				x					x	x	x	x	x				x	x	x	No	Positive
Reinke	2007	x	x			x	x				x		x	x					x		x	Yes	Neutral
Reinke	2008	x	x			x	x	x	x	x	x		x	x		x	x		x	x	x	Yes	Positive
Reinke	2013	x	x			x	x	x	x		x	x	x										
Stormont	2007	x				x					x		x	x					x		x	Yes	Positive
Sutherland	2000	x	x			x					x	x	x	x			x		x		x	No	Positive
Sutherland	2002	x	x			x					x		x										
Thompson	2012	x				x					x		x	x		x	x		x	x	x	Yes	Positive
Tiano	2006	x	x			x					x		x	x	x		x		x		x	No	Neutral
van der Mars	1989	x				x					x		x							x		No	Positive

Note. Five studies that were not coded for praise training have gray-shaded rows. BP = behavior-specific; GP = general; PU = public; PR = private; VR = verbal; GE = gesture; TA = tangible; PH = physical; WR = written; IN = individual student; GR = group; CO = contingent; Di = didactic; Iv = in vivo; Sm = self-monitoring; Gs = goal setting; Ti = teacher incentive; Fe = feedback; Pr = prompts; Co = combination.

in the future. In terms of dissatisfaction, it is difficult to compare across studies due to the variety of instruments and questions asked. Concerns appeared related to interventions that were time-consuming (Coffee & Kratochwill, 2013; Fullerton, Conroy, & Correa, 2009), interventions that were somewhat "intrusive" (Reinke et al., 2007; Reinke et al., 2008), teachers reporting that it was difficult to increase their use of praise (Allday et al., 2012), and teachers reporting that it was difficult to be observed when students were behaving inappropriately (Duchaine et al., 2011).

Praise Training Results

The fourth research question (Which praise training methods have positive findings?) was answered by reviewing praise training studies to determine which training methods (or combination of training methods) found positive, neutral, or negative findings. Of the 24 studies rated, 18 or 75% had positive findings. Six of the studies had neutral findings and no studies had negative findings. Only three of the 18 studies (17%) that reported positive findings used a single training method. Caldarella et al. (2011) and Howell et al. (2014) both used didactic training only, whereas van der Mars (1989) used prompt training only. Fifteen of the 18 studies (83%) with positive findings used multiple training methods and all the studies (100%) with neutral findings used multiple training methods. On average, studies with positive findings used 3.2 training methods (range = 2–5), whereas studies with neutral findings used 2.8 training methods on average (range = 2–4).

Didactic. All 15 studies (100%) with positive findings used didactic training in combination with one to four other training methods (i.e., self-monitoring, goal setting, feedback,

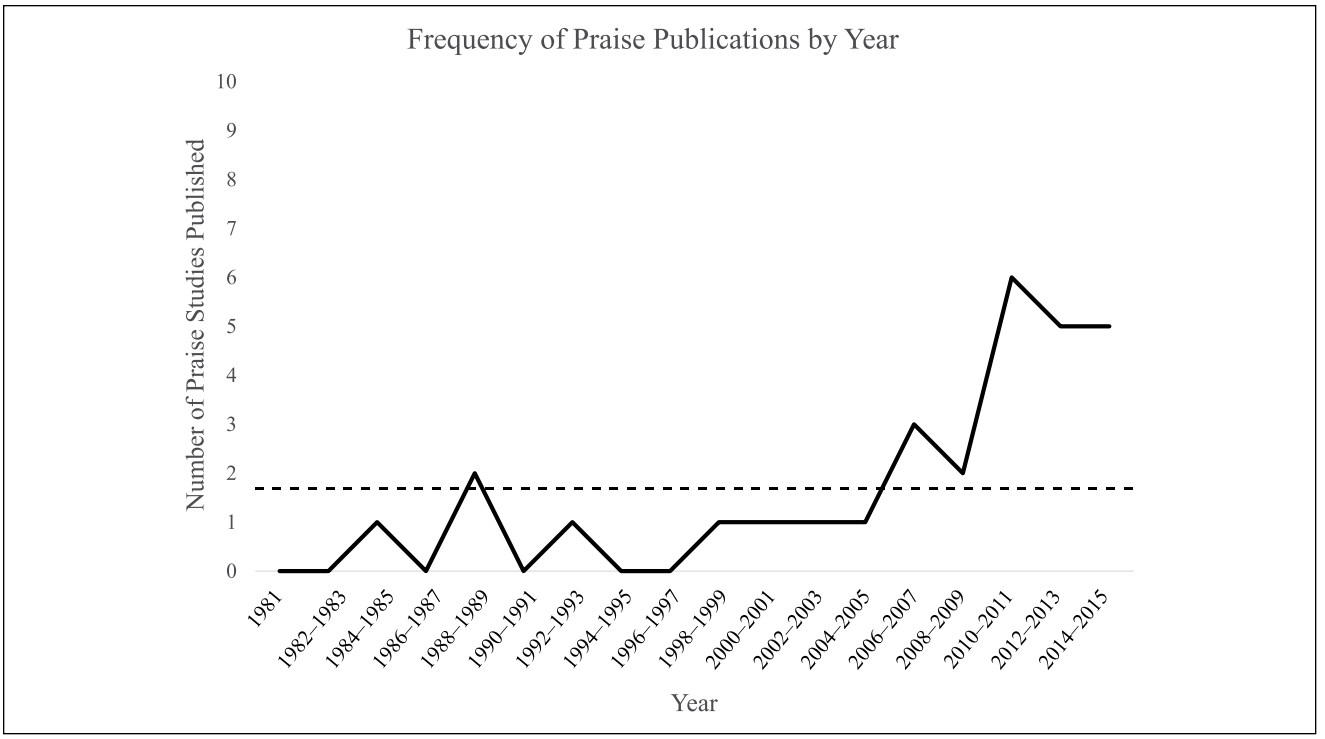

Figure 2. The number of studies published every 2 years between 1981 and 2015 is presented with dashed mean line (M = 1.6).
Note. Studies reported in 2014 to 2015 are not inclusive of all studies published in the year 2015.

and prompts). All six studies (100%) with neutral findings used didactic training in combination with one to three other training methods (i.e., in vivo, goal setting, and feedback).

In vivo. Three of the 15 studies (20%) with positive findings used in vivo training in combination with two to three other training methods (i.e., didactic, feedback, and prompts). One of the six studies (16%) with neutral findings used in vivo training in combination with didactic, goal setting, and feedback training methods.

Self-monitoring. Three of the 15 studies (20%) with positive findings used self-monitoring in combination with three to four other training methods (i.e., didactic, self-monitoring, goal setting, feedback, and prompts). None of the studies with neutral findings used self-monitoring.

Goal setting. Eight of the 15 studies (53%) with positive findings used goal setting in combination with two to four other training methods (i.e., didactic, self-monitoring, feedback, and prompts). Five of the six studies (83%) with neutral findings used goal setting in combination with two to three other training methods (i.e., didactic, in vivo, and feedback).

Teacher incentive. Only one study (6%) with positive findings used teacher incentive in combination with didactic training. None of the studies with neutral findings used teacher incentive.

Feedback. Many studies (86%) with positive findings used feedback in combination with one to four other training methods (i.e., didactic, self-monitoring, goal setting, and prompts). Four of the six studies (67%) with neutral findings used feedback in combination with two to three other training methods (i.e., didactic, in vivo, and goal setting).

Prompts. Six of the 15 studies (40%) with positive findings used prompts in combination with one to four other training methods (i.e., didactic, self-monitoring, goal setting, and/or feedback). None of the studies with neutral findings used prompts.

Discussion

This study documented praise characteristics and teacher training methods for increasing teacher use of praise in the current literature. In addition, praise training methods with favorable treatment acceptability ratings and praise training methods with positive findings were also identified. Findings indicated an increasing trend in research focused on use of praise over the past 34 years. Despite the increase in published studies, only 29 total studies met the criteria for this review, suggesting that additional research is warranted to

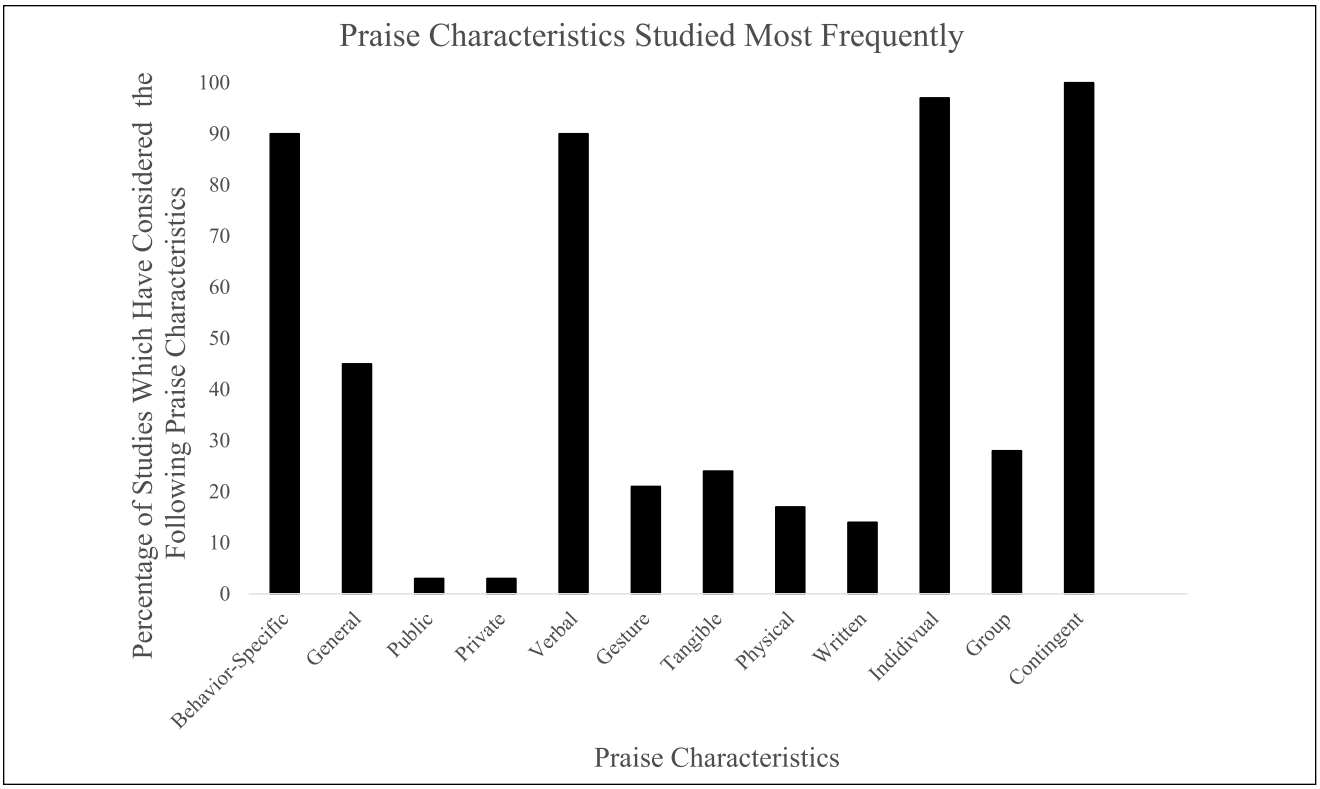

Figure 3. The percentage of studies which have considered the following praise characteristics as part of their dependent variable definition for study.

Note. One study could have considered more than one praise characteristics, and therefore multiple characteristics could be coded for a single study.

better understand the praise characteristics and training methods needed to increase teacher praise. Of the 29 studies reviewed, the majority (24 or 83%) were coded for praise training. All 29 studies were coded for praise characteristics; however, only five (17%) examined teachers' use of praise in the absence of training (e.g., examined teachers' natural use of praise or examined teachers' use of praise in statistical relation to teachers' opportunities to respond). Thus, there are few evaluations of teachers' use of praise in the absence of training. Better understanding of how teacher praise is related to grade level, instructional activities, other teacher skills, and class-wide outcomes has the potential to inform the field on its potential use across a variety of settings (Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008; Sugai & Horner, 2009) and to guide professional development in this area (Jenkins, Floress, & Reinke, 2015).

Praise Characteristics

BSP was frequently studied, which has likely been influenced by Brophy (1981b) which indicated that BSP produces the greatest impact on student behavior because it explicitly states the behavior being praised. However, to date, there have been no experimental studies that have systematically manipulated BSP versus GP or any other praise characteristic. Floress, Jenkins, Reinke, and Baji (under review) found a relation between teacher BSP and student on-task behavior among 28, K to fifth-grade general education classrooms, but no relation was found for GP. Although this study did not experimentally manipulate BSP and GP, it provides an initial step toward identifying a relation between BSP and on-task behavior among nonreferred, general education classrooms.

Research that manipulates different praise characteristics is needed. For instance, Blaze and colleagues (2014) examined whether public praise versus private praise was more effective in decreasing inappropriate behavior and concluded that both were effective. To our knowledge, this is the only study that has compared two types of praise characteristics. However, one of the difficulties in comparing praise characteristics or gleaning information which is most important is that many studies include multiple characteristics within a single praise definition. For example, Blaze et al. coded praise as verbal praise anytime verbal praise was combined with physical praise (e.g., verbal plus high-five). Reinke et al. (2013) defined general praise as a verbal statement or gesture (e.g., thumbs up, pat on the back, high-five) that indicates approval and does not name a specific behavior. Thus, it is difficult to compare which praise characteristic is more effective when multiple characteristics are

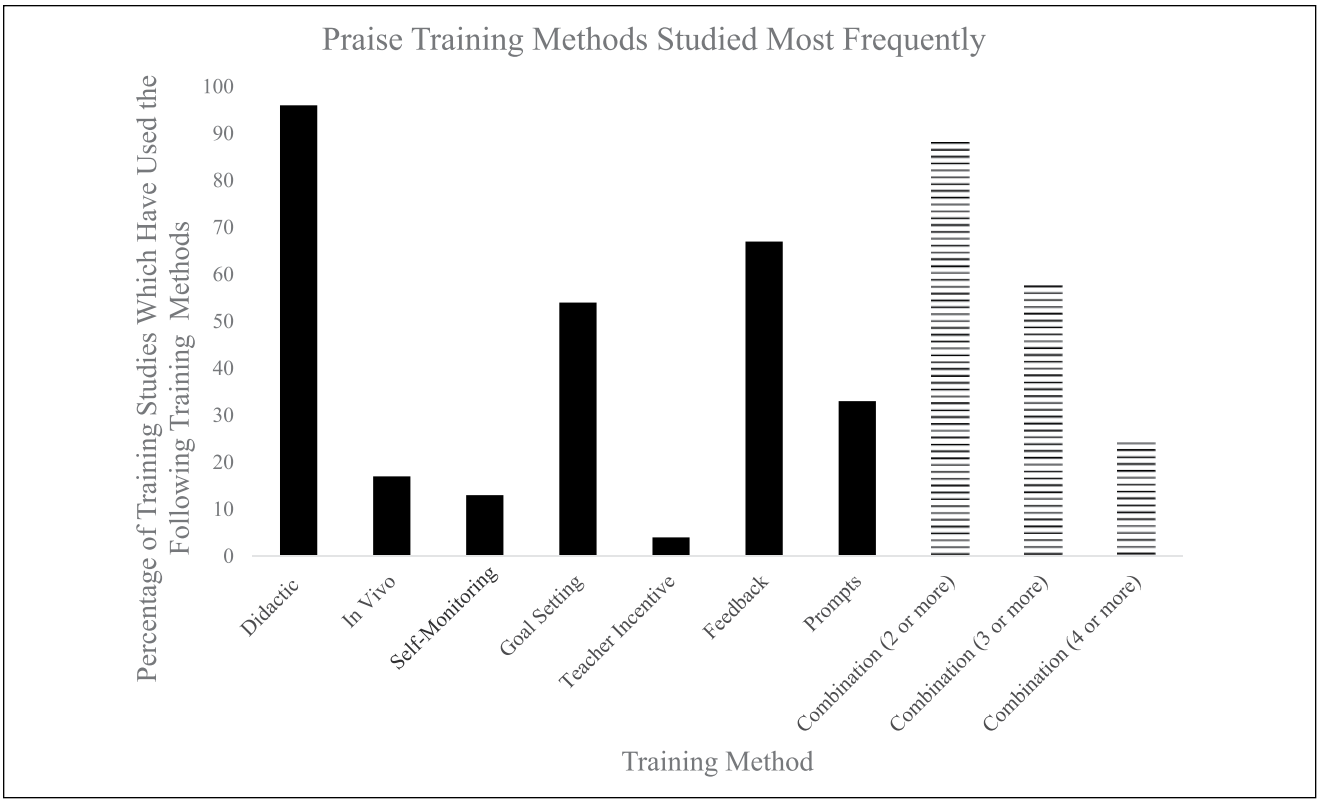

Figure 4. The percentage of studies which have used the following training methods to increase teacher praise.
Note. Multiple training methods could be coded for a single study. The columns on the far right indicate the percentage of studies which included two or more training methods.

embedded within a single praise definition. It makes sense to look at each of these characteristics individually to examine their effectiveness on student behavior and then combine the characteristics (which have the strongest influence) into a single definition of effective praise use. Clearly examining infrequently studied praise characteristics or combinations of characteristics is needed. To do this, researchers studying praise might use shared definitions, such as the definitions outlined in this article. This would allow for studies of praise to be combined more readily, informing the field, and teacher training and professional development programs.

Another area in need of additional research are studies that look at the influence of teacher praise on the entire classroom environment. Most studies investigated the use of praise with individual students. However, praise is a low-cost strategy that could be readily used at the classroom level to improve prosocial behaviors among all students in a classroom. Of the studies included in this review, only 10 of the 29 focused on using praise at the classroom level. There appears to be an increase in studies directed at evaluating or understanding classroom-level praise. For instance, of the 10 studies investigating classroom-level praise, seven of these studies were published after 2010. This push to study the effects of praise at the classroom level is likely the result of programs that emphasize meeting all students' needs universally such as school-wide positive behavior support (Sugai & Horner, 2009). As future research targets classroom-level use of praise, directly manipulating specific praise characteristics would provide insights into which characteristics are more effective classroom-wide. Better understanding which praise characteristics or combination of praise characteristics are easier and more acceptable to teachers would increase the likelihood of implementation (Dart, Cook, Collins, Gresham, & Chenier, 2012). Ease of praise implementation may be important to examine in terms of increasing teacher use of praise and treatment integrity. For example, determining whether tangible praise (i.e., marble to fill a bucket or tickets) is more acceptable and effective in comparison with physical or verbal praises at the classroom level can provide consultants with knowledge and tools to support teachers struggling with classroom management.

Furthermore, studies that target students with individual praise may investigate the collateral effects of the praise on other students in the classroom (Reinke et al., 2007). For instance, one benefit often claimed for using BSP is that other students in the classroom, who may not be displaying

the expected behavior, will begin to act appropriately when they observe another student receiving BSP. Similarly, teachers who are trained to use praise with an individual student may also increase their use of praise with other students in the classroom. Reinke et al. (2007) found that providing teachers with performance feedback increased their use of BSP to students with disruptive behaviors and nontargeted classroom peers.

Another area of praise research that is understudied is manipulating and measuring the less objective components of praise. For instance, Brophy (1981b) suggested that for praise to be effective, it should be specific, contingent, and genuine. Other important qualities of praise noted by Brophy include delivering it with enthusiasm and meaning. These are all aspects that are difficult to measure. In fact, no study has measured these characteristics or described them in their definition of praise. These characteristics are seen most frequently in praise reviews or when others are describing how to use praise in the literature; but to our knowledge, they have not been studied as part of an operational (dependent variable) definition. Future research could work to develop definitions of these qualities of praise and manipulate them to determine the importance of these qualities.

Furthermore, investigating under what circumstances praise is most effective is needed. Teachers struggling with classroom management among groups of students for whom peer attention is highly reinforcing may find that praise is not powerful enough to reduce disruptive behavior. In these situations, teachers could be directed to additional classroom management strategies (e.g., group contingencies; Simonsen et al., 2008) to reduce student misbehavior classwide. This also emphasizes the importance of teaching teachers to recognize whether they are using praise appropriately (i.e., whether their praise is reinforcing to students in the class; Brophy, 1981b). Understanding when and what types of praise are most impactful and under what conditions and for which youth will help to guide teacher training in effective practices.

Training Methods

Prior to determining which training methods are most effective, it is important to identify which training methods are commonly used. Most studies (88%) used two or more strategies to support teachers' use of praise. Of the 24 training studies reviewed, differences between training methods used in studies that reported positive versus neutral outcomes were not easily apparent. Of the 18 studies with positive findings, three used single training methods. All six of the studies with neutral findings used multiple training methods (2.8 on average), which was similar to the number of training methods used in the remaining 15 studies with positive findings (3.2 on average). Therefore, the number of training methods employed did not seem to make a difference on studies with positive versus neutral findings.

The combination of training methods is an important area of investigation; however, when studies use multiple training methods, comparing studies to determine which training method is most effective can be challenging. Using shared definitions might allow researchers to more easily compare studies. From the current findings, the most common combination of training methods across all the training studies included didactic instruction and feedback. Using didactic instruction (i.e., providing teachers explicit directions, examples, and modeling how to use praise) may be an essential component to training because it provides an information base and explanation for why and how teachers should implement praise. However, one of the problems with didactic instruction alone is that teachers fall short during follow-up and are unable to maintain increased rates of praise (Dufrene et al., 2012).

Another challenge is that teachers vary in their need for support in implementing new practices. For instance, in a recent study, teachers receiving didactic training in classroom management who demonstrated lower implementation benefited from receiving performance feedback from a coach more so than did teachers who were able to implement at a higher level following the training (Reinke, Stormont, Herman, & Newcomer, 2014). Therefore, thinking about using a tiered model of supports (Myers, Simonsen, & Sugai, 2011; Simonsen et al., 2016; Thompson et al., 2012) for teachers may be helpful, particularly given the lack of resources typically available in schools to support teacher implementation of new practices. Some teachers may benefit from didactic instruction with limited supports to follow, whereas other teachers may need more intensive supports. In the current study, a larger percentage of studies with positive findings used self-monitoring/goal setting/feedback in combination and prompting/feedback in combination. Also, a larger percentage of studies with positive findings used either in vivo or prompt training method. Additional research on the moderating effects of teacher skill level on implementation as well as research which dismantles training methods would help inform the field.

Future research should also focus on exploring areas of training that have limited research (e.g., in vivo and incentive methods). For instance, in vivo training may be highly effective for large numbers of teachers, thus increasing implementation from the start. Whereas didactic alone may be less effective in general, with only a minority of teachers having the capacity to implement. Thus, a direct comparison between in vivo without didactic versus didactic alone would be useful (Dufrene et al., 2012). Furthermore, studies that evaluate not only the effectiveness of methods but the acceptability of methods are important.

Only 54% of the training studies examined teacher acceptability. These training methods included didactic,

feedback, goal setting, prompt, and self-monitoring, whereas treatment acceptability for in vivo and incentive methods has not been measured. Although overall acceptability ratings for praise and praise training were positive or satisfactory, assessing social validity needs to be a priority among future praise research because teacher acceptability influences treatment integrity (Dart et al., 2012; Strohmeier et al., 2014).

Limitations

There are limitations to this study. First, while the intent of this review was to be inclusive of all studies focused on praise over the past 34 years, it is possible that some studies were not included. Studies may have been inadvertently overlooked or were unpublished and therefore not included in the sample. Therefore, the findings may not represent all research on the topic. In addition, a meta-analysis was not conducted, and therefore only descriptive conclusions are made. However, despite these limitations, these findings provide common definitions for studying praise characteristics and training methods which could assist in comparing studies as well as guide future research.

Implications

Teacher use of praise is a universal classroom management strategy that effectively and positively influences all student behavior (i.e., typical student learners and learners with EBDs). Supporting teachers to use praise in general education classrooms is important because it can prevent the development of student problem behaviors and address the needs of students with EBDs who are served within general education classrooms. With the increase in schools implementing school-wide models of discipline such as school-wide positive behavioral interventions and supports (SWPBIS), teachers are encouraged to give more praise than reprimands in their classrooms. The fact that many teachers do not naturally provide more positive than negative in their classrooms (see Reinke et al., 2013) indicates that we need to understand what training methods and types of praise will lead to teachers' use and sustainability of praise. This study provides us with ideas about where we are as a field in studying praise and what forms of training lead to teachers' use of classroom praise. Last, looking in classrooms to see when and what types of praise can be most impactful will be useful in developing appropriate professional development for teachers in the future.

In conclusion, praise is an effective and practical strategy which is used to increase students' prosocial and appropriate behaviors (Dufrene et al., 2014; Reinke et al., 2008; Sutherland et al., 2000). While research in this area has increased over the past three decades, likely due to an increased emphasis on using universal supports to promote appropriate student behavior school-wide (Sugai & Horner, 2009), future research is needed. Knowing which praise characteristics are most effective with individual students as well as at a classroom level will be useful. Development of common definitions of praise characteristics, like the ones presented in this article, and the understudied less objective qualities of praise such as enthusiasm, genuineness, and meaningfulness would help in a more systematic approach to future research. Furthermore, understanding which training methods are most useful for most teachers is needed and can be explored with the use of common definitions. Understanding how teacher characteristics, such as skill level or need for support, impact teacher training is also important. Matching teacher need to specific training is likely to streamline the training process and increase teachers' successful implementation of praise. The results of this review can help to support and guide professional development and consultation for teachers who are currently in the field as well as inform teacher training programs. In the end, having a more in-depth understanding of how praise works in our classrooms will help proactively support all students to be successful in our schools.

Authors' Note

The opinions expressed are those of the authors and do not represent the views of the Institute or the U.S. Department of Education.

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