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Behavior-Specific Praise in Pre-K–12 Settings: Mapping the 50-Year Knowledge Base

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Abstract

Behavior-specific praise (BSP) is a low-intensity strategy widely used to encourage appropriate behavior. We sought to explore the vast literature base for BSP, which spans 50 years, to better understand for whom and under what conditions BSP has demonstrated effectiveness. We conducted a comprehensive review of school-based intervention studies ($k = 57$) involving BSP with school-age students. First, we identified outlets in which these 57 studies (from 52 articles) were featured. Second, we described the 1,947 total student participants and the educational contexts in which these interventions occurred—the vast majority of students were served in general education and many displayed challenging behaviors (e.g., students with emotional and behavioral disorders). Third, we examined how BSP was implemented and evaluated with the Pre-K–12 population, noting three distinct areas of research: teacher-delivered BSP, student-delivered BSP, and professional learning to increase BSP. Fourth, we examined how BSP was employed as an independent and dependent variable, with more than 96% of studies featuring BSP as an outcome measure. Finally, we investigated the extent to which social validity (33 studies), generalization (11 studies), and maintenance (26 studies) were assessed. We conclude with a discussion of limitations and directions for future inquiry.

Keywords

behavior-specific praise, BSP, positive behavioral interventions and supports, PBIS

In 1938, in his book *The Behavior of Organisms*, B. F. Skinner defined the three-term contingency (antecedent, behavior, consequence) and helped psychologists better understand the impact consequences have on behavior, noting consequences change "the future probability of responses in the sample class" (Skinner, 1953, p. 87). In essence, learning occurs through consequences, the stimuli that follow a behavior (Cooper, Heron, & Heward, 2007). Consequences can be either punishing or reinforcing, with punishing consequences decreasing the future probability an individual will engage in a behavior and reinforcing consequences increasing the future probability.

Researchers have identified proactive and preventive discipline practices, including the intentional consequence of acknowledging students for demonstrating desired behaviors (e.g., using social skills, meeting behavioral expectations; Sugai & Simonsen, 2012). Acknowledging students who engage in appropriate behaviors is an essential part of the process of teaching social behaviors, just as instructional feedback is essential to teaching academic skills. In schools, staff can acknowledge and reinforce students engaging in appropriate behavior by providing praise contingent upon desired behavior.

When used effectively, praise can function as positive reinforcement. Positive reinforcement is defined as the contingent introduction of any stimulus presented after the occurrence of a behavior that increases the likelihood that behavior will occur again (Cooper et al., 2007). Because reinforcement is defined by the influence it has on future behavior, it is not possible to know whether a specific stimulus is actually a reinforcer until the associated impact on future behavior is observed. This is an important consideration as different individuals find different consequences reinforcing, and not everyone is reinforced by the same stimuli (Umbreit, Ferro, Liaupsin, & Lane, 2007). Research has demonstrated that providing a consequence immediately after a behavior increases the likelihood that learning will

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occur (Sidman, 1960). However, it may be difficult to provide many types of reinforcement (e.g., tangibles, privileges, activities) immediately following a desired behavior during classroom instruction (Alberto & Troutman, 2013).

Behavior-Specific Praise

One way to deliver reinforcement immediately following a behavior is with behavior-specific praise (BSP). Praise is the act of acknowledging or giving approval for correct responding and appropriate behavior (Brophy, 1981). Praise has been shown to be an effective reinforcer when it is specific, meaning it describes what the individual has done well (e.g., "Great job showing your work when solving your math problem"; Hattie & Timperley, 2007; Sutherland, Wehby, & Copeland, 2000). Although praise appeared in the literature in the early 1960s (Sidman, 1960), BSP was first evaluated by Madsen, Becker, and Thomas (1968) who explored the effectiveness of classroom rules and expectations, BSP, and planned ignoring in a public elementary school. Authors found rules and planned ignoring had little effect on student behavior, with behavior of some participants worsening compared with baseline. Yet, when BSP and other forms of approval were introduced, inappropriate behavior decreased substantially.

Since 1968, BSP has been widely utilized by both educational practitioners and researchers. The literature base embodies studies examining the effects of (a) teacher-delivered BSP and written praise notes on student behavior (e.g., Hollingshead, Kroeger, Altus, & Trytten, 2016; Nelson, Caldarella, Young, & Webb, 2008), (b) professional development and coaching activities to increase teachers' BSP (e.g., Fullerton, Conroy, & Correa, 2009), and (c) peer-delivered BSP (e.g., Teerlink, Caldarella, Anderson, Richardson, & Guzman, 2017). BSP is a foundational core component in the universal tier of positive behavioral interventions and supports (PBIS; Lane, Menzies, Oakes, & Kalberg, 2019) and is an essential element of other low-intensity strategies used to support students with challenging behaviors (e.g., high-probability request sequences, opportunities to respond, precorrection; Lane, Menzies, Ennis, & Oakes, 2015). In brief, BSP is a keystone component of behavior-change inquiry, used by and for a range of stakeholders to support a range of students—particularly those who demonstrate challenging behavior (Brophy, 1981; Sutherland et al., 2000).

To date, several literature reviews have examined the literature base on BSP. Cavanaugh (2013) examined the evidence base for providing performance feedback to increase teachers' rate of praise and opportunities to respond. He identified 24 studies and found performance feedback resulted in a marked increase in teacher praise. However, Cavanaugh included studies for both behavior-specific and general praise in his review. In 2016, Sweigart, Collins, Evanovich, and Cook (2016) conducted a quality assessment of 14 single-case research design (SCRD) studies that also evaluated the effects of performance feedback on teachers' use of praise. Similar to the prior review, they did not specify the praise had to be behavior specific. Furthermore, they limited their search from 2004 to 2015.

In 2017, Floress, Beschta, Meyer, and Reinke examined the varying characteristics of praise and training methods used to increase praise. Authors examined varying aspects of praise (e.g., general, BSP, public, private, verbal, gestural) and multiple training methods (e.g., in vivo, self-monitoring, goal setting, feedback). Across 29 articles, authors found verbal BSP was used most frequently and was most often directed to individual students. They also found most studies used two or more training methods. Again, this study did not look at BSP in isolation.

Royer, Lane, Dunlap, and Ennis (2019) examined the effects of teacher-delivered BSP on student outcomes. They identified six SCRD studies meeting their inclusion criteria and applied the Council for Exceptional Children (CEC; 2014) Standards for Evidence-Based Practices in Special Education to assess the methodological quality of the research base, concluding teacher-delivered BSP met criteria for a *potentially evidence-based practice*. Although the authors focused on BSP, their narrow focus on examining the effects of teacher-delivered BSP on student outcomes in traditional school settings resulted in the evaluation of a small number of studies and omitted studies focused on coaching educators to increase BSP (e.g., visual performance feedback [VPF], bug-in-ear technology) and studies where peers delivered BSP.

Mapping the Literature Base

Whereas literature reviews have examined various aspects of praise, such as characteristics of praise and training methods (Floress et al., 2017), teacher-delivered BSP (Royer et al., 2019), and performance feedback to increase teachers' use of praise (Cavanaugh, 2013; Sweigart et al., 2016), no study has sought to map the overall literature base on BSP and only one review to date (Royer et al., 2019) has looked specifically at BSP. Although growing attention is being paid to quality assessments, in such a large and diverse literature base as BSP an important step is to first understand the breadth of the research base. A comprehensive map of the literature affords researchers and educators a complete picture of the literature on BSP—including examining BSP as an independent and dependent variable in school-based inquiry, from which to further refine inquiry and quality appraisals (e.g., in what settings and with what populations are more studies needed to determine for whom BSP works and under what conditions; Wolery & Dunlap,

2001). To comprehensively examine the research on BSP, we coded the characteristics of identified studies and further microcoded interventions (e.g., identified individual intervention components). Modeled after Carter, Lane, Crnobori, Bruhn, and Oakes's (2011) mapping of self-determination interventions for students with and at risk of emotional and behavioral disorders (EBD), we mapped the literature related to BSP to better understand BSP and inform future inquiry as well as teacher preparation activities (Leko, Brownell, Sindelar, & Kiely, 2015).

This review seeks to provide insight into the current state of the research base by identifying gaps in inquiry and describing the nature of the studies conducted to date. To accomplish this, we posed research questions similar to those posed by Carter et al. (2011):

Research Question 1: In which outlets were treatment-outcome studies featured?
Research Question 2: For which students and within which contexts were these interventions conducted?
Research Question 3: By whom and how has BSP been implemented and evaluated within Pre-K–12 traditional school settings?
Research Question 4: To what degree has BSP been addressed as an intervention component (independent variable [IV]) and outcome variable (dependent variable [DV]) in the research literature?
Research Question 5: To what degree have outcomes such as social validity, generalization, and maintenance been assessed in the BSP literature?

Method

Inclusion Criteria

Included studies met the following criteria. First, studies examined effects of a BSP as an IV (e.g., the effects of teacher- or peer-delivered BSP on student behavior) or used BSP as a DV (i.e., using coaching strategies to increase BSP). To meet our BSP requirement, studies had to explicitly state they used praise that included an acknowledgment of student behavior with specific labeling of what behavior had been acknowledged and provide examples to verify. Studies that did not define praise as behavior specific were not included (e.g., Rivera, Mason, Iffat, & Johnson, 2015). Only studies with BSP as a primary DV or IV were included, as praise was often a part of an intervention but not the focus of the investigation (e.g., functional assessment–based interventions; Lane et al., 2007). If other strategies were a part of the investigation (e.g., multiple baseline across teacher behaviors where BSP was a separate tier; Barton, Fuller, & Schnitz, 2016; Da Fonte & Capizzi, 2015), BSP data had to be reported separately to be included in our review.

Second, studies were included if they (a) occurred in a Pre-K–12 traditional school setting (e.g., public/private neighborhood schools), (b) used experimental or quasi-experimental design (group or SCRD), and (c) were published in a peer-reviewed journal. We chose to focus on traditional school settings because of the diverse needs of students served in alternative education settings and the service-delivery models used (e.g., cognitive-behavioral interventions, individualized behavior intervention plans; Jolivette, 2013; Leone & Weinberg, 2012).

Article Selection Procedures

To identify relevant studies, we used a four-step search process: electronic search, ancestral search, hand search, and editor and author contact. First, we searched 21 electronic databases in February 2017 using the following Boolean search terms: *behavio** AND *specific* AND *praise*, "*positive verbal praise*," and (*teacher* OR *peer*) AND "*praise notes*." Databases were ABI/INFORM Global, Academic Search Complete, Educational Resources Information Center (ERIC), JSTOR Archival Journals, Linguistics & Language Behavior Abstracts, MEDLINE/PubMed, MLA International Bibliography, OneFile, Project MUSE, ProQuest Nursing & Allied Health Source, ProQuest Research Library, PsycARTICLES, PsycINFO, SAGE Journals, Science Citation Index Expanded (Web of Science), SciVerse ScienceDirect (Elsevier), Social Sciences Citation Index (Web of Science), Sociological Abstracts, SpringerLink, Taylor & Francis, and Wiley Online Library. This search returned 647 unique results, replicated with 100% accuracy by a second author for reliability. Two authors independently read article titles and abstracts, coding them in MS Excel as 0 = *does not meet inclusion criteria* or 1 = *meets inclusion criteria*. They identified 90 articles from 52 journals (91.81% interrater agreement [IRA], calculated using point-by-point agreement) to be read in full with the same binary coding employed. After full reads of manuscripts, the same two authors identified 54 articles from 31 journals (IRA = 87.13%). If any discrepancies were found at each step of study identification, the same two authors discussed and resolved them, with feedback from other authors as needed.

Second, two authors conducted independent ancestral searches of the 54 articles in March 2017. The ancestral search involved reviewing the citations and references and noting any articles with potential to meet inclusion criteria. This search revealed an additional 79 titles for consideration, with 94.13% IRA (agreements n = 1,907, disagreements n = 119) between two authors. Upon review of the abstracts, 39 articles were selected for reading in full (IRA = 78.48%), with six additional titles (IRA = 94.87%) added to the 54 articles identified in the electronic search.

Third, hand searches were conducted in a university library in March 2017 for journals in which two or more identified articles were published: *Behavior Modification, Behavioral Disorders, Beyond Behavior, Education & Treatment of Children, Journal of Applied Behavior Analysis, Journal of Behavioral Education, Journal of Emotional and Behavioral Disorders, Journal of Positive Behavior Intervention, The Journal of Special Education, Preventing School Failure, School Psychology Quarterly*, and *Teacher Education and Special Education*. Beginning at the initial identified BSP publication (Madsen et al., 1968) through April 2017, journals were hand searched page by page, reading titles for possible inclusion, and if of interest, abstracts to identify any additional articles meeting search criteria missed by the electronic search. A total of 1,214 issues were hand searched. If a journal was not physically available in the university's library, authors reviewed the electronic table of contents. Hand search IRA was 99.18% (range = 95.77%–100%), calculated using point-by-point agreement for each issue with total agreements divided by total agreements plus disagreements, multiplied by 100 to obtain a percentage. The hand search yielded no additional articles for inclusion.

After hand searching, we reviewed the 60 articles and determined whether the IV and participants across studies were heterogeneous (e.g., coaching educators to increase BSP, teacher-delivered BSP, and peer-delivered BSP) enough to warrant exclusion of articles where (a) BSP was part of a packaged intervention ($n = 10$), instead focusing our review on articles where BSP was the main IV or DV and (b) experimental design (i.e., Chalk & Bizo, 2004) or Method and Results sections (i.e., Caldarella, Christensen, Young, & Densley, 2011) were not clearly defined or labeled ($n = 2$), as these articles did not include enough information to fully evaluate methodological rigor. These exclusions were replicated independently by a second coder with 100% agreement.

Fourth, we emailed the corresponding or first authors of included studies and their respective journal editors in July 2017 to see whether any in-press manuscripts or studies missed by our search might meet inclusion criteria. Of the received manuscripts, four were found to meet the criteria. In total, from all four search phases, we identified 52 articles (containing 57 studies) to be coded for descriptive variables to map the literature base for BSP.

Coding Procedures

Training. All authors were previously trained to code articles during prior systematic literature reviews (i.e., Ennis, Royer, Lane, & Dunlap, in press; Ennis, Royer, Lane, & Griffith, 2017; Royer et al., 2019). Detailed descriptions of training procedures are featured elsewhere; in brief, training included coding SCRD studies and group design studies not related to or included in the respective reviews and then meeting to confirm agreement and discuss discrepancies until 85% IRA or higher was reached for three consecutive articles of each design type. Authors include three special education professors (one full, two assistants) and a doctoral student.

Descriptive coding. To understand the descriptive context for included studies, the first author coded (a) strategy for delivering/increasing BSP (e.g., teacher training, coaching, self-monitoring), (b) method of BSP delivery (e.g., verbal, written, peer), (c) methodology used to assess outcomes (SCRD [e.g., A-B-A-B, multiple baseline] or group), (d) praise recipients (e.g., teacher, student, teaching intern), (e) grade level, (f) special education categorization (e.g., at risk, emotional disturbance, general education), (g) generalization (whether assessed and outcomes), (h) maintenance (whether assessed and outcomes), (i) social validity (whether assessed and outcomes; see Table 4), (j) IV, (k) intervention agent, (l) DV, and (m) outcomes. We further microcoded (e.g., McLeod et al., 2017) the IV, identifying each praise training or coaching component specifically stated. We defined praise training as any training or in-service implemented prior to implementation, designed to increase teacher knowledge and facilitate use of BSP that took place once or across multiple sessions. We defined coaching as any form of ongoing support to facilitate teacher implementation of a practice during implementation, including self-coaching (Ennis et al., in press). Accuracy of descriptive coding was verified by a second author for 35.85% of articles (IRA = 98.62%), calculated using cell-by-cell agreement where the total number of cells with agreements (4,569) were divided by the total number of cells (4,633) and multiplied by 100 to obtain a percentage. Discrepancies were addressed and resolved among coders prior to analyses.

Results

We identified 52 articles (containing 57 studies) to be coded for descriptive variables to map the literature base for BSP. Authors of all studies except one (Wright, Ellis, & Baxter, 2012) utilized SCRD methodology.

Outlets

Included studies were published from 1968 to 2018 (i.e., in press) in 27 unique journals. Earlier studies (1968–1976) were all published in the *Journal of Applied Behavior Analysis* ($k = 4$). The *Journal of Positive Behavioral Interventions* ($k = 9$) most frequently published articles on BSP. *Education and Treatment of Children* ($k = 6$), *Teacher Education in Special Education* ($k = 4$), *Journal of Behavioral Education* ($k = 3$), *Behavioral Disorders*

($k = 2$), *Behavioral Modification* ($k = 2$), *Journal of Emotional and Behavioral Disorders* ($k = 2$), and *Preventing School Failure* ($k = 2$) also published multiple articles on BSP.

Study Participants and Context

A total of 1,946 student participants were included across the 52 articles ($k = 57$ studies). However, 16 studies reported providing praise to the entire classroom but did not report the number of students. Typically, articles did not report student numbers when the primary target for outcomes was the teacher (or another adult providing praise). Table 1 displays information about participant demographics for all studies.

Students. Of the 57 studies, 28 included students ($n = 1,635$) in general education only, and 11 included students ($n = 78$) who were described as at risk (e.g., teacher report of high off-task or disruptive behaviors). Of the students receiving special education services, the most common disabilities were emotional disturbance ($k = 13$, 22.81%; $n = 88$), intellectual disabilities/developmental delay ($k = 7$, 12.28%; $n = 22$), and learning disabilities ($k = 6$, 10.53%; $n = 30$). There were an additional seven studies (12.28%) that included students ($n = 87$) receiving special education services where the disability was not specified.

In all studies, students received BSP in response to their behavior. Many studies directed praise toward individual or targeted students ($k = 14$, 24.56%; $n = 64$), many of which involved the nomination of students at risk for behavior problems (e.g., Reinke, Lewis-Palmer, & Martin, 2007; Thompson, Marchant, Anderson, Prater, & Gibb, 2012). Other studies trained praise deliverers to provide BSP to the entire class or instructional group ($k = 44$, 77.19%; $n = 1,015$; e.g., Keller, Brady, & Taylor, 2005; Rathel, Drasgow, & Christle, 2008). Three studies (5.66%; $n = 868$) directed praise to all students in the school, delivered by teachers (Armstrong, McNeil, & Van Houten, 1988), teachers and lunchroom staff (Wheatley et al., 2009), or peers (Teerlink et al., 2017). Three studies (5.66%) directed praise to target students and the entire class. For example, Armstrong et al. (1988) trained teachers to deliver praise to targeted students; once teachers maintained stable levels of praise delivery, they were instructed to praise other students. Similarly, Duncan, Dufrene, Sterling, and Tingstrom (2013) trained teachers to deliver BSP to targeted students and then assessed generalization by seeing whether teachers delivered BSP to other students in the class without explicit generalization training (see Table 1).

Praisers. There were 282 individuals who were responsible for implementing praise delivery across the 57 studies. The majority of studies utilized the teacher as praise deliverer ($k = 44$, 77.19%; $n = 190$). Other studies utilized paraprofessionals ($k = 2$, 3.51%; $n = 4$) and teacher interns ($k = 6$, 10.53%; $n = 18$). Many studies provided demographic information on the adult participants (i. e., the praisers). Of the 38 articles reporting information on gender, there were 21 male and 99 female participants. Of the 24 articles reporting information on race/ethnicity, there were 52 White participants, 17 Black participants, two Hispanic participants, and one Pacific Islander participant. Thirteen studies reported adult participant age, which ranged from 22 to 57 (it is not possible to accurately report the mean as some studies only reported mean age across multiple participants). Another subset of four articles trained students to deliver praise to their peers ($k = 6$, 10.53%; $n = 201$).

School setting. The identified studies all took place within traditional school settings and represented all school levels, including early childhood ($k = 15$, 26.32%; $n = 470$), elementary ($k = 23$, 40.35%; $n = 1,060$), middle ($k = 6$, 10.53%; $n = 131$), and high school ($k = 4$, 7.02%; $n = 34$). An additional nine studies (15.79%; $n = 252$) included some combination of grade levels, such as secondary (e.g., Pinter, East, & Thrush, 2015), early childhood/elementary (e.g., Simonsen, MacSuga, Fallon, & Sugai, 2013), or elementary through high school (e.g., Capizzi, Wehby, & Sandmel, 2010; see Table 1).

Classroom. Most studies took place in general education classrooms ($k = 33$, 57.89%), with an additional seven (12.28%) taking place in inclusion classrooms. Studies in special education classrooms included three (5.26%) in self-contained schools, 12 (21.05%) in self-contained classrooms, and five (8.77%) in resource classrooms. Three studies (5.26%) took place in nonacademic settings, including the lunchroom (Wheatley et al., 2009), playground (Teerlink et al., 2017), and a physical education class (van der Mars, 1989).

Implementation and Evaluation

BSP implementation was varied, particularly regarding training and coaching procedures.

Method of praise delivery. An overwhelming majority of studies involved verbal BSP ($k = 53$, 92.98%; including some coaching studies; e.g., Smith, Lewis, & Stormont, 2011; Stormont, Smith, & Lewis, 2007). A study by Houghton, Wheldall, Jukes, and Sharpe (1990) used a unique approach to providing verbal BSP by specifically training teachers to deliver BSP verbally yet privately, in a low voice where only the target student could hear.

Table 1. Setting and Participant Characteristics.

Characteristic	No. of studies	% of studies	Total *n* across studies reporting	Average *n* per study (*SD*)[a]
School level				
Early childhood	15	26.32	470	47.00 (57.52)
Elementary	23	40.35	1,060	70.67 (123.52)
Middle	6	10.53	131	32.75 (32.89)
High	4	7.02	34	11.33 (13.80)
Combination	9	15.79	252	42.00 (35.09)
Setting[b,c]				
General education	33	57.89		
Inclusion	7	12.28		
Resource	5	8.77		
Self-contained class	12	21.05		
Self-contained school	3	5.26		
Cafeteria	1	1.75		
Lunchroom	1	1.75		
Physical education class	1	1.75		
Special education status[b]				
General education	28	49.12	1,635	90.83 (107.93)
"At risk"	11	19.30	78	5.57 (5.39)
ASD[d]	2	3.51		
ED/EBD	13	22.81	88	8.80 (8.53)
ID/DD	7	12.28	22	5.50 (5.20)
LD	6	10.53	30	6.00 (3.00)
OHI	4	7.02	6	3.00 (0.00)
SLI	1	1.75	1	1.00 (0.00)
SPED, NOS	7	12.28	87	17.40 (14.83)
Target recipients[b,e]				
Targeted/individual student	14	24.56	64	4.57 (5.24)
Whole group/class	39	73.58	896	25.60 (30.55)
Whole school	3	5.66	868	289.33 (149.56)
Praise deliverer[b]				
Teacher[f]	44	77.19	190	4.87 (7.85)
Teacher intern	6	10.53	18	3.00 (1.10)
Paraprofessional	2	3.51	4	2.00 (1.41)
Peer	6	10.53	201	67.00 (87.89)

Note. ASD = autism spectrum disorder; ED/EBD = emotional disturbance/emotional and behavioral disorders; ID/DD = intellectual disability/developmental delay; LD = learning disability; OHI = other health impairment; SLI = speech language impairment; SPED, NOS = special education, not otherwise specified.

[a]Average *n* per study was calculated by dividing the total number of participants by the total number of studies reporting participant *n*—additional studies in each category did not report number of student participants. [b]More than one category could be coded, resulting in totals exceeding 100%. [c]Total and average *n* reported for special education status. [d]Studies with ASD participants did not report number of students. [e]An additional 17 studies administered praise to the whole class but did not report the number of student participants in the group. [f]An additional two studies did not report the number of teachers delivering BSP.

Teerlink and colleagues (2017) trained students to deliver verbal praise to peers paired with a written praise note during recess. Two additional studies (3.77%) used written praise notes. Wheatley and colleagues (2009) trained adults to provide praise notes to students who displayed appropriate behaviors in the lunchroom. Nelson and colleagues (2008) trained students to deliver praise notes to peers, placing two blank notes on student desks each morning with the instructions to deliver praise notes to different peers each day of the week.

Praise training characteristics. Studies that provided training designed to increase teacher knowledge and use of BSP ($k = 51$) used a variety of procedures to train teachers, students, interns, and paraprofessionals (see Figure 1). We coded this information for two main categories: training format and training components.

Training format. Praise deliverers were most often trained individually ($k = 29$, 50.88%; e.g., Andrews & Kozma, 1990; Simonsen, Myers, & DeLuca, 2010). Brock

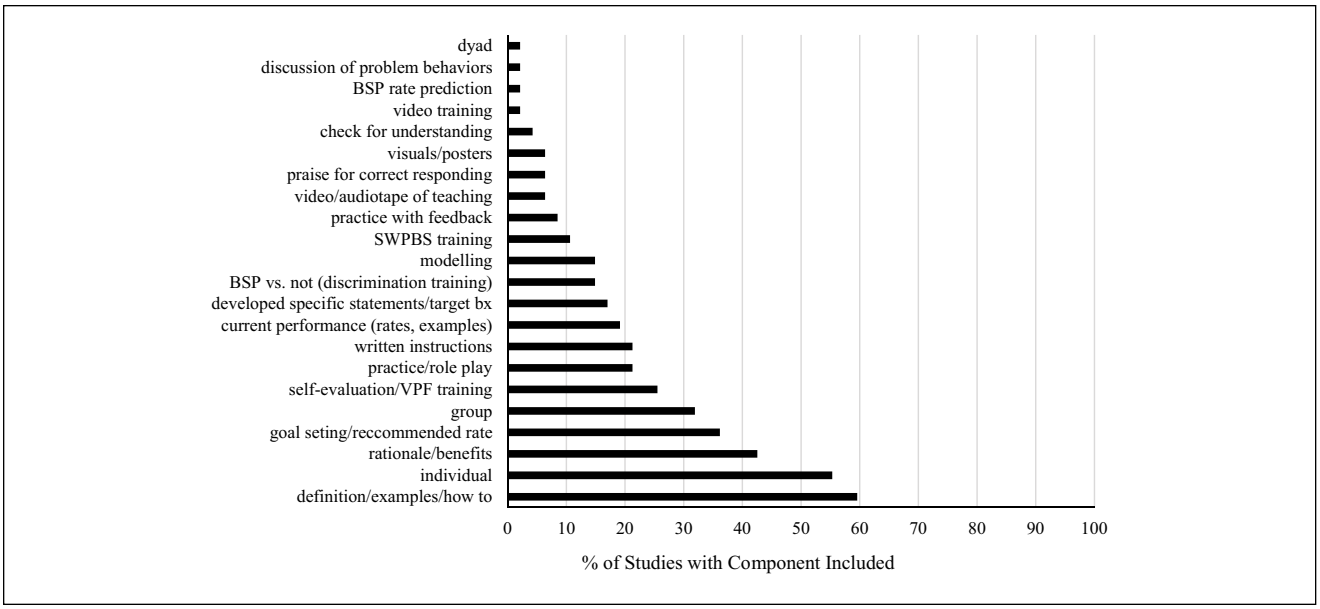

Figure 1. Professional development components of behavior-specific praise studies.
Note. BSP = behavior-specific praise; bx = behavior; SWPBS = school-wide positive behavior supports; VPF = visual/video-performance feedback.

and Beaman-Diglia (2018) trained a teacher and a paraprofessional in a dyad to support the behavior of one targeted student. Sixteen studies (28.07%) trained praisers in groups, sometimes in small groups (e.g., Reinke et al., 2007, trained teachers in groups of three) and at other times schoolwide (e.g., Myers, Simonsen, & Sugai, 2011; Thompson et al., 2012). An additional five studies (8.77%) did not explicitly state whether praise training was provided individually or in groups.

Praise training components. Across the 51 studies that included praise training components, we coded 18 unique components, with most interventions using multiple components (percentages to follow are of the 51 studies reporting outcomes). The most frequently used were providing examples, definitions, or steps for implementing BSP (k = 31, 60.78%; e.g., Dufrene, Lestremau, & Zoder-Martell, 2014; Hemmeter, Snyder, Kinder, & Artman, 2011), presenting the rationale and/or benefits for BSP use (k = 23, 45.10%), setting a goal or providing a recommended rate for BSP delivery (k = 18, 35.29%; e.g., Duchaine, Jolivette, & Fredrick, 2011; Martella, March-and-Martella, Young, & MacFarlane, 1995), and practice/role-play (k = 14, 27.45%). Other commonly used strategies included providing training on the coaching method to be used (e.g., VPF, self-monitoring; k = 12, 23.53%; e.g., Reinke, Lewis-Palmer, & Merrell, 2008; Simonsen et al., 2017), a tip sheet (k = 12, 23.53%; e.g., Brock & Beaman-Diglia, 2018; Rathel, Drasgow, Brown, & Marshall, 2014), evaluation of current rates of BSP (k = 9, 17.65%; e.g., Allday et al., 2012; Moffat, 2011), and modeling (k = 9, 17.65%; e.g., Dufrene et al., 2012; O'Handley, Dufrene, & Whipple, 2018). See Table 2 for additional characteristics coded.

Coaching characteristics. Fifty studies (87.72%) provided coaching to support teacher implementation of BSP (including self-coaching) using a variety of procedures to facilitate teacher, student, intern, and paraprofessional use of BSP (see Figure 1). We coded this information for three main categories: coaching format, prompting materials, and coaching/self-monitoring intervention components (percentages to follow are of the 50 studies reporting outcomes).

Coaching format. We analyzed how coaching was provided in terms of group size, modality, and timing. Regarding group size, the majority of studies provided coaching independently (k = 45, 90.00%; e.g., Kalis, Vannest, & Parker, 2007; Morgan, Menlove, Salzberg, & Hudson, 1994). The remaining studies provided coaching in groups (k = 5, 10.00%; e.g., Reinke et al., 2007; van der Mars, 1989), dyads (k = 2, 4.00%; Briere, Simonsen, Sugai, & Myers, 2015; Ploessl & Rock, 2014), or did not specify (i.e., Horton, 1975). Madsen et al. (1968), Armstrong et al. (1988), and Reinke et al. (2007) provided feedback both individually and in groups.

Coaching procedures were delivered in various modalities. The most frequently utilized model was to provide coaching in person (k = 23, 46.00%; e.g., Cossairt, Hall, & Hopkins, 1973; Stormont et al., 2007). Researchers also provided feedback via email (k = 14, 28.00%; e.g., Allday

Table 2. Behavior-Specific Praise Professional Development Characteristics.

Characteristic	No. of studies	% of studies reporting	% of all studies
Method of delivering BSP taught			
Verbal	53		92.98
Verbal, private	1		1.75
Verbal, praise notes	1		1.75
Praise notes	2		3.51
Training format[a]			
Individual	29	56.86	50.88
Dyad	1	1.96	1.75
Group	16	31.37	28.07
Not specified	5	9.80	8.77
Professional development components[b]			
Definition/examples/how to	31	60.78	54.39
Rationale/benefits	23	45.10	40.35
Goal setting/recommended rate	18	35.29	31.58
Practice/role-play	14	27.45	24.56
Coaching training (i.e., VPF, SM)	12	23.53	21.05
Tip sheet/instructions at conclusion of training	12	23.53	21.05
Current performance rate/examples	9	17.65	15.79
Modeling	9	17.65	15.79
Identified specific statements/target behaviors	8	15.69	14.04
Discrimination training (BSP vs. general, other)	7	13.73	12.28
Practice/role-play with feedback	6	11.76	10.53
SWPBS training	6	11.76	10.53
Praise for correct responding	5	9.80	8.77
Visuals/posters to cue BSP	3	5.88	5.26
Training via video	3	5.88	5.26
Explicit check for understanding	2	3.92	3.51
BSP rate prediction	1	1.96	1.75
Discussion of problem behaviors	1	1.96	1.75

Note. BSP = behavior-specific praise; VPF = visual performance feedback; SM = self-monitoring; SWPBS = schoolwide positive behavior supports. [a]Fifty-one studies involved praise training, six were coaching only; % of all studies do not add to 100. [b]Some studies involved multiple strategies; % do not add to 100.

et al., 2012; Barton, Pribble, & Chen, 2013) and written notes (k = 11, 22.00%; e.g., Duchaine et al., 2011; Martella et al., 1995). In addition, Ploessl and Rock (2014) and Dufrene et al. (2014; Dufrene et al., 2012) used bug-in-ear technology to coach the use of BSP in real time in co-taught classrooms.

Coaching (including self-monitoring as a form of self-coaching) procedures were utilized at varying frequencies. The majority of studies with this component provided daily feedback (k = 34, 70.00%; e.g., Alexander, Williams, & Nelson, 2012; Houghton et al., 1990). Other studies provided feedback once per week (k = 10, 20.00%; e.g., Capizzi et al., 2010; Pisacreta, Tincani, Connell, & Axelrod, 2011) and multiple times (k = 5, 10.00%; e.g., Morgan et al., 1994; Wright et al., 2012).

Coaching intervention components. We coded 16 unique coaching components, with the bulk of interventions using multiple components (see Figure 2). The most frequently used were performance feedback (k = 25, 50.00%; e.g., Pisacreta et al., 2011; Stormont et al., 2007), suggestions for and examples of BSP (k = 15, 30.00%; e.g., Barton et al., 2016; Sutherland et al., 2000), and goal setting (k = 12, 24.00%; e.g., Duncan et al., 2013; Hemmeter et al., 2011). Coaches also frequently used BSP (k = 11, 22.00%; e.g., Fullerton et al., 2009; Rathel et al., 2014), VPF (k = 11, 22.00%; Hawkins & Heflin, 2011; Hollingshead et al., 2016), self-monitoring (k = 8, 16.00%; Brock & Beaman-Diglia, 2018; Gage, MacSuga-Gage, & Crews, 2017), and audio/video self-monitoring (k = 8, 16.00%; Horton, 1975; Wright et al., 2012). See Table 3 for additional strategies coded.

Prompting and recording materials. Fourteen studies reported the use of specific materials for either cuing the delivery of BSP or keeping a record of the frequency of BSP delivered (percentages to follow are of the 14 studies

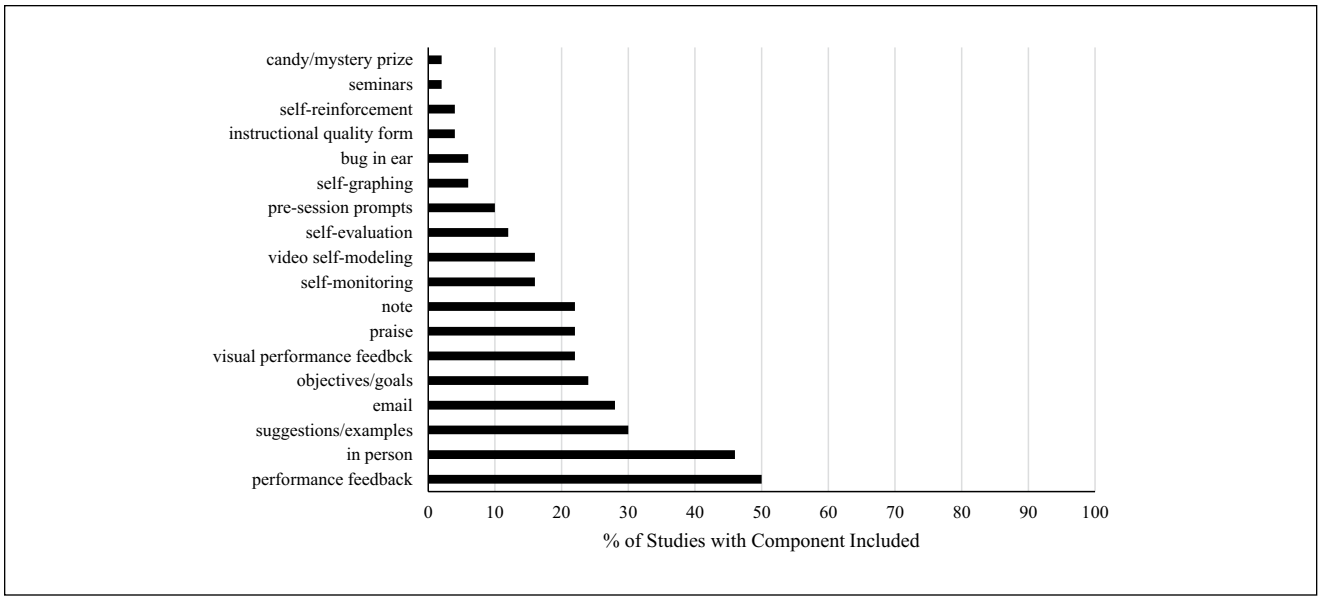

Figure 2. Coaching components of behavior-specific praise studies.

Table 3. Strategies for Increasing/Maintaining BSP Delivery.

Strategy	No. of studies	% of studies reporting	% of all studies
Coaching/self-monitoring format[a,b]			
Individual	45	90.00	78.95
Dyad	2	4.00	3.51
Group	5	10.00	8.77
Not specified	1	2.00	1.75
Coaching/self-monitoring delivery[a,b]			
In person	23	46.00	40.35
Email	14	28.00	24.56
Written notes	11	22.00	19.30
Bug in ear	3	6.00	5.26
Self-monitoring only	7	14.00	12.28
Coaching/self-monitoring timing[a]			
Daily	35	70.00	61.40
Multiple times a week	5	10.00	8.77
Weekly	10	20.00	17.54
Coaching/self-monitoring prompt/recording materials[a,c]	14		
Golf counter	6	42.86	10.53
Timer/MotivAider®	4	28.57	7.02
Tally	2	14.29	3.51
Auditory prompts	2	14.29	3.51
Coaching/self-monitoring components[a,b]			
Performance feedback	25	50.00	43.86
Provided with suggestions for/examples of BSP	15	30.00	26.32
Goal setting	12	24.00	21.05
Praise for BSP delivery/goal attainment	11	22.00	19.30
Visual performance feedback	11	22.00	19.30
Self-monitoring	8	16.00	14.04
Audio/video self-modeling	8	16.00	14.04
Self-evaluation	6	12.00	10.53
Presession prompts	5	10.00	8.77

(continued)

Table 3. (continued)

Strategy	No. of studies	% of studies reporting	% of all studies
In vivo coaching	3	6.00	5.26
Self-graphing	3	6.00	5.26
Group feedback	2	4.00	3.51
Instructional quality form	2	4.00	3.51
Self-reinforcement	2	4.00	3.51
Candy/mystery prize (student praisers)	1	2.00	1.75
Seminars	1	2.00	1.75

Note. BSP = behavior-specific praise.
[a]Fifty studies involved procedures for coaching BSP, seven were training only; % of total studies do not add to 100. [b]Some studies involved multiple elements; % do not add to 100. [c]Fourteen studies used materials for self-monitoring and prompting.

reporting use). These included golf counters (k = 6, 42.86%; Gage, MacSuga-Gage, & Crews, 2017; Simonsen et al., 2017), vibratory (i.e., MotivAiders®) or auditory timers (k = 4, 28.57%; Kalis et al., 2007; Thompson et al., 2012), use of tally marks (k = 2, 14.29%; Alexander et al., 2012; Simonsen et al., 2013), and auditory prompts (k = 2, 14.29%; Andrews & Kozma, 1990; van der Mars, 1989).

Research design. All studies except one utilized SCRD methodology. Wright et al. (2012) used a randomized control trial with delayed feedback, immediate feedback, and control groups. The most common SCRD was a multiple-baseline design (k = 43, 75.44%), including both multiple baseline across behaviors (k = 14, 24.56%; e.g., Armstrong et al., 1988; Rogers-Warren & Baer, 1976) and subjects (k = 29, 50.88%; e.g., Keller et al., 2005; Reinke et al., 2008). Nine (15.79%) studies used withdrawal/reversal designs (e.g., Ploessl & Rock, 2014; Teerlink et al., 2017). Two SCRD studies used A-B designs (Alexander et al., 2012; Kalis et al., 2007). Moffat (2011) used a changing criterion design by slowly increasing the target rate of teacher BSP. Simonsen et al. (2013) used an alternating treatment design to compare use of various prompting strategies to increase praise (tally, golf counter, self-rating).

Adult dependent variables. Twenty-nine (50.88%) studies reported outcomes for both adults and students, and 21 (36.84%) studies reported outcomes for adults only. Table 4 displays outcome measures. Of the studies measuring adult (i.e., teacher, preservice teacher, paraprofessional) outcomes, all measured rate of BSP delivery (k = 50, 100%; e.g., Dufrene et al., 2012; Simonsen et al., 2014), with 48 (96.00%) reporting positive outcomes (as reported by authors). Thirty-four studies (68.00%) also measured other teacher behaviors, such as general praise (e.g., Myers et al., 2011; O'Handley et al., 2018) and/or reprimands (e.g., Hollingshead et al., 2016; Stormont et al., 2007).

Student dependent variables. Twenty-nine (50.88%) studies reported outcomes for both adults and students, and seven (12.28%) for students only. Of the 36 studies measuring student behaviors, 26 (72.22%) studies measured inappropriate behaviors such as disruption (e.g., Pisacreta et al., 2011; Thompson et al., 2012) and off-task behavior (e.g., Duncan et al., 2013; van der Mars, 1989). Twenty-two studies (61.11%) measured appropriate student behaviors such as on-task behavior and compliance (e.g., Allday et al., 2012; Smith et al., 2011), and five (13.89%) measured student BSP delivery to peers. Of these 36 studies, 31 (86.11%) authors reported positive outcomes.

Role of Behavior-Specific Praise in Included Studies

Across the literature base, BSP functioned as both a DV and an IV. Fifty-five (96.49%) studies measured BSP as a DV, typically following BSP training and/or coaching techniques (e.g., Morgan et al., 1994; Simonsen et al., 2017). Thirty-six (63.16%) studies utilized BSP as an IV, looking at the effect of BSP on student outcomes (e.g., Reinke et al., 2007; Stormont et al., 2007). These studies essentially utilized BSP both as a DV (e.g., the outcome of praise training) and as an IV (i.e., examining the effect of BSP on student behavior). Only two studies (3.51%) evaluating BSP as an IV (i.e., praise notes) did not also measure BSP as a DV (Nelson et al., 2008; Wheatley et al., 2009).

Social Validity, Generalization, and Maintenance

Thirty-three studies (61.40%) assessed social validity, with some studies assessing social validity at multiple time points. Most students assessed social validity at postassessment only (k = 30, 90.91%; e.g., Nelson et al., 2008; O'Handley et al., 2018). Two other studies (6.06%) assessed social validity pre- and postassessment (Kalis et al., 2007; Simonsen et al., 2010), whereas three studies (9.09%) assessed social validity throughout the intervention (e.g., Rathel et al., 2014; Rathel et al., 2008). Ploessl and Rock (2014) assessed social validity both throughout (student outcomes) and postintervention. Kalis and colleagues (2007) assessed social validity through postintervention interviews and by comparing student grades

Table 4. Outcome Measures.

Outcome type and measure	No. of studies	% of studies reporting	% of all studies
Outcomes measured			
Adult	21		36.84
Student	7		12.28
Adult and student	29		50.88
Adult measures[a]	50		86.79
BSP	50	100	87.72
Other behaviors	34	68.00	59.65
Adult outcomes	50		86.79
Positive	48	96.00	84.21
Mixed	2	4.00	3.51
Negative	0	0.00	0.00
Student outcome measures[a]	36		63.16
BSP	5	13.89	8.77
Appropriate behaviors	22	61.11	38.60
Inappropriate behaviors	26	72.22	45.61
Student outcomes	36		63.16
Positive	31	86.11	54.39
Mixed	5	13.89	8.77
Negative	0	0.00	0.00
Generalization assessed	11		20.75
Results generalized	5	45.45	8.77
Mixed results	4	36.36	7.02
Results did not generalize	2	18.18	3.51
Maintenance assessed	26		45.61
Results maintained	20	76.92	35.09
Mixed results	4	15.38	7.02
Results did not maintain	2	7.69	3.51
Social validity assessed[b]	33		61.40
Throughout	3	9.09	5.26
Post	30	90.91	52.63
Pre/post	2	6.06	3.51
Type of social validity			
Questionnaire/survey	27	81.82	47.37
Interview	4	12.12	7.02
Preservice teacher journal	2	6.06	3.51
Student outcomes	2	6.06	3.51

Note. BSP = behavior-specific praise.
[a]More than one category could be coded, resulting in totals exceeding 100%. [b]Two studies used multiple forms of social validity assessment at multiple times, resulting in totals exceeding 100%.

pre- and postintervention. Social validity was assessed through surveys or questionnaires (k = 27, 81.81%; e.g., DaFonte & Capizzi, 2015; Pinter et al., 2015), interviews (k = 4, 12.12%; e.g., Alexander et al., 2012; Haydon & Musti-Rao, 2011), preservice teacher journal comments (k = 2, 6.06%; Rathel et al., 2014; Rathel et al., 2008), and student outcomes (k = 2, 6.06%; Kalis et al., 2007; Ploessl & Rock, 2014). All studies reporting social validity outcomes indicated treatment acceptability.

Eleven studies assessed generalization of BSP delivery in other settings. Based on author report, generalization occurred for five of the 11 studies (e.g., Fullerton et al., 2009; Horton, 1975), results were mixed for four (e.g., Hemmeter et al., 2011; Keller et al., 2005), and results did not generalize for two (Rogers-Warren & Baer, 1976; Simonsen et al., 2010). Generalization was assessed during nontargeted activities (e.g., intervention targeted reading and generalization assessed in math), other class periods, or with other students.

Authors of 26 studies (45.61%) assessed maintenance of BSP delivery over time. Results maintained in 20 studies (76.92% of the 26; e.g., Dufrene et al., 2014; Simonsen et al., 2014), were mixed in four (15.38%; e.g., Hawkins & Heflin, 2011; Hemmeter et al., 2011), and did not maintain in two (7.69%; Barton et al., 2013 [Study 1]; Reinke et al., 2007). Delay between the conclusion of the intervention and collecting maintenance data ranged from immediately following the intervention to 1 year postimplementation (Armstrong et al., 1988).

Discussion

BSP is an effective and efficient low-intensity strategy that is a cornerstone practice for classroom management and is a part of PBIS and other systems-based approaches. A map of the literature, which clarifies for whom and under what conditions research has been conducted, can establish an agenda for future research and can be used to guide practice and teacher preparation (Carter et al., 2011; Leko et al., 2015). This map of the BSP literature extends the previous findings of Cavanaugh (2013), Floress et al. (2017), Royer et al. (2019), and Sweigart et al. (2016) by comprehensively examining the populations for and settings in which BSP has been used, methods of BSP delivery, strategies for improving teacher BSP, and effects of BSP on teacher and student behavior.

The researchers who conducted the 57 studies included in this map of the BSP literature used varied approaches to training and coaching BSP, which were conducted in diverse settings with diverse participants. This is a strong testament to the versatility, utility, and importance of BSP as a form of positive reinforcement for use in diverse classrooms and school settings (e.g., cafeteria, playground). One does not need any specific materials to deliver BSP verbally and needs only a pen and slip of paper if praise notes are used. This is perhaps why BSP is such a widely used and researched form of positive reinforcement. In addition, BSP is an essential element for the implementation of other low-intensity strategies, such as high-probability request sequences, opportunities to respond, and precorrection (Lane et al., 2015), which support students with and at risk of EBD. Future researchers may wish to explore other modalities in which BSP can be provided (e.g., electronically, in pictures)

The 57 studies suggested, based on author report, generally positive outcomes for both teachers and students. For example, teachers noted improved use of BSP and positive opinions of the impact BSP had in their classroom (e.g., in Hollingshead et al., 2016, the teacher refused to withdraw the intervention for more than 1 day). Students saw improved behavioral performance, including increased engagement and decreased disruptive behaviors. This is consistent with other reviews suggesting BSP as a teacher-delivered strategy is a potentially evidence-based practice (Royer et al., 2019), using performance feedback to increase teachers' use of praise is a potentially evidence-based practice (Sweigart et al., 2016), and coaching of BSP delivery is an evidence-based practice for increasing BSP delivery (Ennis et al., in press).

As we mapped the BSP literature base, three main types of articles emerged. In the first type, researchers focused solely on the effects of teacher-delivered BSP on student outcomes (e.g., Haydon & Musti-Rao, 2011; Madsen et al., 1968). These articles involved briefly training teachers to implement BSP (e.g., schoolwide training for cafeteria setting, 1:1 professional development). The second type focused on coaching teachers to increase or maintain their use of BSP in the classroom. These studies provided ongoing support (e.g., VPF, use of a MotivAider® to cue BSP delivery, email consultation) to teachers to increase BSP delivery, many following an initial individual or group praise training session. In many studies, this ongoing support was provided in the form of regular feedback from a researcher or mentor in person or via email (e.g., Allday et al., 2012; Thompson et al., 2012). Other studies in this group trained teachers to self-monitor their own BSP delivery, which served as self-coaching support (e.g., Alexander et al., 2012). The final type of articles examined the effect of peer-delivered BSP. These articles used strategies to train students similar to those used with adults in the other two types of studies. Results from these studies suggest both student praisers and student praise recipients enjoyed participating in the process (Rogers-Warren & Baer, 1976; Teerlink et al., 2017).

Students and Educational Contexts

The large number and diversity of students who participated in BSP interventions, including those at risk of academic failure and EBD, suggests BSP can be a strategy for different types of students. However, as with many other bodies of literature, there were limited studies implemented at the middle- ($k = 6$) and high- ($k = 4$) school levels. Additional research, including replication, is needed with older students. Furthermore, as schools continue to adopt and implement schoolwide PBIS, more studies are needed that evaluate the effectiveness of praise in nonacademic, nonclassroom settings (e.g., Barton et al., 2016; Teerlink et al., 2017), as well as to compare effects of BSP paired with token (e.g., ticket) delivery and delivered without tokens. Future researchers should consider looking at the research on BSP with targeted groups of students (e.g., EBD, at risk).

Implementation and Evaluation

The large number of adult participants with varied roles within the school—teacher, intern, and paraprofessionals—also suggests BSP is a low-intensity strategy that can be implemented by a diverse group of individuals. Praisers provided BSP to targeted students as well as to all students in a class or school. However, most teachers provided BSP at a very low rate during baseline (e.g., 0–2 praise statements in 30 min) and only increased following training (e.g., Houghton et al., 1990), in some instances only with ongoing coaching (e.g., Gage et al., 2017). Researchers should further examine the effects of training paraprofessionals and other related service providers to deliver BSP.

We microcoded all praise training components to examine in greater depth the approaches used to support the use and understanding of BSP. For example, Myers and colleagues (2011) used a tiered support model (Tier 1: schoolwide praise training, Tier 2: brief consultation with performance feedback and weekly praise from researcher, Tier 3: daily feedback after each session) with VPF to increase teacher's use of BSP, which involved multiple training components (e.g., schoolwide PBIS training, group training, performance feedback, praise, suggestions/examples, in-person training, in-person feedback, and individual feedback).

Most training programs used a variety of techniques, including providing examples of BSP, rationale for BSP use, and some form of practice, modeling, or role-play (e.g., Simonsen et al., 2010). Although the clear majority of trainings were conducted individually, numerous studies used group modalities. Although individual trainings allow the trainer to individualize instruction, schools and researchers seeking to maximize resources may want to consider providing group trainings followed by more intensive coaching and feedback, as needed (see Gage, MacSuga-Gage, et al., 2017; Myers et al., 2011; Thompson et al., 2012).

The majority of the articles provided coaching support individually and in person. However, it is important to note several studies utilized technology to provide feedback. This was done most commonly via email and included performance feedback, VPF, and other elements. For example, Barton and colleagues (2013) sent emails with supportive feedback, corrective feedback, and a request for a response to ensure that the email had been received and reviewed by the teacher. Ploessl and Rock (2014) and Dufrene and colleagues (2014; Dufrene et al., 2012) used bug-in-ear technology to support teachers' classroom practices, including BSP delivery, in co-taught settings.

Most studies provided coaching daily, but others provided it less frequently, either weekly or multiple times per week. Studies using both frequent and infrequent coaching observed positive outcomes for BSP delivery as well as its impact on student behavior. As researchers think of ways to provide feasible supports to teachers and other praise deliverers, they may want to consider providing coaching less frequently to allow for the support of more teachers. Similarly, if coaching is provided daily, to promote maintenance, fading this level of support once teachers meet criteria might be considered.

Capizzi and colleagues (2010) and Alexander and colleagues (2012) both used a checklist to guide the coaching process. This checklist allowed the coach to discuss key teaching behaviors with preservice teachers and set goals for subsequent sessions. This is one approach future researchers may want to consider to promote fidelity of coaching.

Social Validity, Generalization, and Maintenance

Over half the studies ($k = 33$) assessed social validity in one or more ways before, throughout, or after the intervention. We encourage researchers to continue to assess social validity whenever conducting research as views on the acceptability of goals, procedures, and outcomes are needed from participating stakeholders to inform future intervention design. Social validity was assessed from the teacher or adult perspective via surveys, interviews, and journals; a student outcomes. Future researchers may want to consider garnering input from multiple stakeholders, in particular students, when applicable. Furthermore, most examinations of social validity were postassessment. Future researchers may want to consider assessing social validity both pre- and postintervention as research has shown social validity ratings prior to implementation can affect issues of fidelity of implementation (Lane et al., 2009).

It was encouraging to see that some researchers examined generalization and maintenance. We recommend future research assess generalization and maintenance whenever possible to show whether, for example, the coaching of BSP led to continued teacher use of BSP in multiple contexts.

Study Limitations

A limitation present in any review of existing literature is the risk of missing relevant studies. In the Method section, we detailed the copious efforts taken to carry out multiple searches and ascertain reliability of those procedures. We hope these detailed steps minimized this risk. In addition, we did not assess whether treatment integrity was measured as this was not the intent of this review, but this will be an important variable to explore as part of quality-appraisal reviews (e.g., Royer et al., 2019). For example, in their analysis of teacher-delivered BSP, Royer and colleagues (2019) examined six articles and found all measured and reported treatment integrity for both adherence and dosage. Similarly, in their review of 48 BSP studies, Ennis et al. (in press) reported 47.92% of studies reported adherence fidelity for coaching of BSP and 79.17% reported dosage of coaching BSP. Future studies will want to continue to evaluate this important variable.

Another potential limitation of this work is we only included studies from peer-reviewed journals. This introduces the potential for publication bias, as peer-reviewed journals historically publish primarily studies with positive outcomes (Cook & Therrien, 2017). For example, 48 of the 50 studies reporting adult behavior outcomes and 31 of 36 reporting student behavior outcomes reported positive results (e.g., the authors noted a functional relation or significant effect size). Therefore, the exclusion of dissertations and other gray literature may make this review subject to publication bias (Gage, Cook, & Reichow, 2017; Maag & Losinski, 2015) and results should be interpreted in light of this factor.

Implications for Practice and Future Research

The numerous articles and studies published on BSP suggest it is a practical and feasible strategy for use in a variety of settings and with a variety of students across the grade span. Researchers have suggested BSP be tried before other strategies because of the high probability for successful, immediate changes in behavior (Stormont & Reinke, 2009). We hope researchers continue to examine how to best support teachers to deliver BSP effectively and consistently to support the needs of students, including those with and at risk of EBD.

An important next step in this programmatic line of inquiry for BSP is to conduct systematic reviews exploring the quality and overall bodies of evidence for the different applications and uses of BSP, including teacher-delivered BSP, peer-delivered BSP, and coaching of BSP delivery. An important outcome of future quality appraisals will be clearly defined areas in need of refinement in subsequent treatment outcome studies. For example, this BSP mapping indicated that few studies focused on peer-delivered BSP. From future quality appraisals, we may learn more attention should be devoted to treatment integrity. Such information will support researchers and practitioners in knowing where to focus inquiry, with attention to developing rigorous methodological procedures that fully adhere to current quality indicators such as those defined by CEC (2014). As these bodies of evidence are better understood and refined, we hope more teachers will take advantage of this easily implemented strategy with the potential to increase desirable behaviors (e.g., compliance, on-task behavior, responding, accuracy) in the classroom (Lane et al., 2015).

Conclusion

This map of the literature is intended to help research consumers better understand how BSP has been used in traditional Pre-K–12 settings. BSP is unique in that it has been researched across the least-restrictive-environment continuum, across all age groups, and with a variety of students with and without disabilities. Furthermore, BSP has been delivered in private, public, verbal, and written forms. Future research should continue to explore various praise modalities, look at ways to help teachers sustain their use of low-intensity strategies like BSP, and also evaluate the effects of BSP delivered by peers, paraprofessionals, and other related service providers.

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