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High School Special Education Teachers' Use Of Positive Behavior Supports: Effects of a Behavior Prompting Routine on Specific Praise Rates

Adrienne Stuckey

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ACCEPTANCE

This dissertation, HIGH SCHOOL SPECIAL EDUCATION TEACHERS’ USE OF POSITIVE BEHAVIOR SUPPORTS: EFFECTS OF A BEHAVIOR PROMPTING ROUTINE ON SPECIFIC PRAISE RATES, by ADRIENNE STUCKEY, was prepared under the direction of the candidate’s Dissertation Advisory Committee. It is accepted by the committee members in partial fulfillment of the requirements for the degree, Doctor of Philosophy, in the College of Education, Georgia State University.

The Dissertation Advisory Committee and the student’s Department Chairperson, as representatives of the faculty, certify that this dissertation has met all standards of excellence and scholarship as determined by the faculty. The Dean of the College of Education concurs.

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**PROFESSIONAL SOCIETIES AND ORGANIZATIONS**

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HIGH SCHOOL SPECIAL EDUCATION TEACHERS’ USE OF
POSITIVE BEHAVIOR SUPPORTS: EFFECTS OF A
BEHAVIOR PROMPTING ROUTINE ON
SPECIFIC PRAISE RATES

by

ADRIENNE ANDERSON STUCKEY

Under the Direction of Nicole Patton Terry and Debra McKeown

ABSTRACT

Teaching class-wide behavior expectations and using specific praise (SP) are common components of positive behavior supports and are considered light behavior management strategies that teachers are likely to find acceptable to implement because they require little time or materials (McNamara, 1984; Oswald, Safran, & Johanson, 2005). SP consists of approval statements that directly describe desirable behavior students have carried out (Brophy, 1981). This contrasts with non-specific, or general praise, which consists of approval statements that lack a specific description of student behavior (Sutherland, Wehby, & Copeland, 2000). A two-fold systematic review of the literature was conducted to locate all relevant studies of interventions to increase teacher SP use in high schools and the effects of interventions involving
frequent class wide pre-correction, pre-teaching, or prompting for classroom behavior expectations or rules for any grade level. As a result of this literature review, the current study was implemented. Using a multiple baseline/multiple probe design, this study examined the impact of three high school special education resource teachers’ use of a class-wide behavior prompting routine on their SP delivery during the lesson. Teachers were taught to implement a daily routine of reminding their students of the behavior expectations immediately prior to the beginning of the lesson. Classes were observed for 30 minutes following delivery of the prompting routine. Outcomes were measured using frequency counts of teacher praise statements, their contents were analyzed, and counts were converted to rates of SP statements per 30 minutes. Results indicated there was not a functional relation between teacher use of the behavior prompting routine and SP rates for any of the participants. Baseline mean rates of SP across teachers ranged from 0-2.17 per 30 minutes, and intervention mean rates of SP across teachers ranged from 1.77-4.60 per 30 minutes. Maintenance probe observations were conducted for two of the teachers, resulting in 4 and 7 SP. Teacher and student perceptions of the acceptability of the behavior prompting routine and SP were measured using a social validity survey following the intervention. Implications of the results for teacher professional development and future research are discussed.

INDEX WORDS: Class-wide behavior prompting; Positive behavior support; Behavior specific praise; High school; High-incidence disabilities; Special education
HIGH SCHOOL SPECIAL EDUCATION TEACHERS’ USE OF
POSITIVE BEHAVIOR SUPPORTS: EFFECTS OF A
BEHAVIOR PROMPTING ROUTINE ON
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by

ADRIENNE ANDERSON STUCKEY

A Dissertation

Presented in Partial Fulfillment of Requirements for the
Degree of
Doctor of Philosophy
in
Education of Students with Exceptionalities
in
the Department of Educational Psychology, Special Education, and Communication Disorders
in
the College of Education
Georgia State University

Atlanta, GA
2015
DEDICATION

This manuscript is dedicated to all the students who hated high school but came to my classes anyway, plus the teachers and future teachers who want to teach you. You’ll always be the reason I do what I do.
ACKNOWLEDGMENTS

I would like to acknowledge the contribution of Chris Stuckey to the success of this project through his commitment to my lifelong dreams. I wish to express thanks to Dr. Nicole Patton-Terry for her academic advisement and for “reading my soul” over and over. Thank you to Dr. Debra McKeown for modeling the sort of mentorship for me and her other students that I hope to emulate in my future academic career. Thank you to Dr. Julie Washington for always seeing the important things and asking the important questions. Thank you to Dr. Ann Kruger for continually pointing me in the direction of theory in my research. Also, to the faculty, staff, and students of the Department of Educational Psychology, Special Education, and Communication Disorders, thank you for making GSU a fruitful home during my years here.

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1 CLASS-WIDE BEHAVIOR EXPECTATIONS AND TEACHER USE OF SPECIFIC PRAISE: A REVIEW OF THE LITERATURE AND PROPOSED LINE OF RESEARCH

Educational attainment is a national concern due to its effects on economic success in adulthood. Earnings over the course of one’s lifetime are approximately 33% higher with a high school diploma than without (Carnevale, Rose, & Cheah, 2011), and adults who do not complete school experience higher rates of unemployment than those with diplomas (Ryan & Siebens, 2012). This is even more likely for students with disabilities such as emotional/behavior disorders (E/BD) or learning disabilities (LD; Kaufman, Alt, & Chapman, 2004), who typically display social and behavioral difficulties as well as academic deficits (Lane, Carter, Pierson, & Glaeser, 2006). For those who are likely to be at risk of leaving high school without a diploma, positive teacher-student interactions in the context of classrooms with high academic and social expectations can be important factors for students remaining in school until completion (Christle, Jolivette, & Nelson, 2007; Knesting, 2008). Therefore, national levels of educational attainment rely at least to some extent on teachers establishing and maintaining classrooms with clear expectations and positive interactions. Unfortunately, this can be difficult to accomplish with some students, especially diploma-seeking students with disabilities, who may often display disruptive behaviors (e.g., Shores, Gunter, & Jack, 1993; Sutherland, 2000) and are at a significantly greater risk for not completing high school than their peers without disabilities (Deshler et al., 2004; Kaufman et al., 2004). One reason is that teachers in classrooms with high rates of disruptive behavior may resort to use of aversive social stimuli (e.g. frequent reprimands or increased intensity of commands after student noncompliance) to gain control of student
behavior (Haydon & Hunter, 2011). Teachers may persist in such interactions because they can lead to immediate desired classroom behavioral outcomes (e.g. student compliance or stopping disruption) for a short time (Alber & Heward, 2000; Shores, Gunter, et al., 1993). However, evidence suggests that secondary schools with high dropout rates have higher rates of staff adversarial and authoritative interactions with students and unclear behavior expectations (Christle et al., 2007). Therefore, it is reasonable to conclude that high school teachers should choose effective classroom management techniques associated with positive interactions between teachers and students instead of coercive techniques that may eventually contribute to early school leaving (Shores, Gunter, et al., 1993).

One possible theoretical model for positive teacher-student interactions in high schools is based on Patterson and Reid’s (1970) description of reciprocal interaction in families. In this model, positive, mutually reinforcing social exchanges between family members increase the probability of future positive interactions between them. Well socialized persons are most likely to respond to others with delivery of positive social consequences, so reciprocal interactions are likely to lead to further positive interactions (Patterson & Reid, 1970). This model of reciprocal interaction can also be applied to teacher-student interactions (Conroy & Sutherland, 2012; Shores, Gunter, et al., 1993). However, setting in motion this positive, self-sustaining cycle may require teachers to initiate positive interaction with students in planned, structured ways that are well-supported by their classroom routines and procedures.

There are a number of classroom management methods that use positive strategies and may promote reciprocal positive interactions. They include approaches such as teaching expected behaviors, posting them visibly, providing frequent reminders of them before instruction, and providing effective social reinforcers following student compliance. Management strategies
including these elements have been shown to affect student behavior positively (Landers, Alter, & Servilio, 2008; MacSuga-Gage, Simonsen, & Briere, 2012; Marchant & Anderson, 2012). However, there is a paucity of research into their applications in secondary schools (Fuchs, Fuchs, & Compton, 2010). This review of literature focused on the interplay of two such strategies for high school settings: prompting for behavior expectations and providing specific praise.

**Prompting for Behavior Expectations**

Teaching students what to do and prompting them to comply is one example of a pre-planned behavior management routine. Prompting for expected behaviors is called numerous things in the literature, including the use and reminders of rules (Conroy, Sutherland, Vo, Carr, & Ogston, 2014; Gable, Hester, Rock, & Hughes, 2009; Kostewicz, Ruhl, & Kubina Jr., 2008) and pre-correction or precorrection (Colvin, Sugai, Good, & Lee, 1997; Haydon, DeGreg, Maheady, & Hunter, 2012; Stormont, Smith, & Lewis, 2007). It occurs when school staff members (a) teach students what social and academic behaviors are required for success in the classroom or another school environment, and (b) remind them of those expectations before entering the environment or beginning the activity (De Pry & Sugai, 2002). Since important elements of positive classroom environments include reliably-implemented routines (Marchant & Anderson, 2012), established boundaries for student behavior, and clarification of guidelines for successful classroom interactions (Kostewicz et al., 2008), consistent prompting for behavior expectations can contribute to the effectiveness of these elements because of its preventive and proactive nature (Gunter & Jack, 1994).

Prompting has been used in whole-group classroom environments (Colvin et al., 1997) and non-classroom or pull-out settings (Haydon & Scott, 2008; Lewis, Colvin, & Sugai, 2000;
Prompting can be used class-wide to establish and increase overall group compliance (e.g., Lohrmann & Talerico, 2004). Prompting for behavior expectations has been shown to be helpful for young children who struggle with attention and impulsivity problems (Stormont et al., 2007) and other students with behavior and academic difficulties (Lewis et al., 2000; Miao et al., 2002; Sprague & Thomas, 1997). Prompting for behavior expectations has been applied as an intervention in research for preschools (e.g., Stormont et al., 2007), elementary schools (e.g., LeGray, Dufrene, Mercer, Olmi, & Sterling, 2013), middle schools (De Pry & Sugai, 2002). However, only one study (McNamara, 1984) has examined its effects with high school-aged students, in a mixed-age study.

It can also be used selectively to address specific, high-frequency problem behaviors for individual students when staff identify and define those behaviors and identify systematic ways to teach and remind students to implement alternative behaviors (Crosby, Jolivette, & Patterson, 2006; Ennis, Schwab, & Jolivette, 2012; Haydon & Scott, 2008). In addition, prompting for expected behaviors also can play an important role in resolving serious behaviors. In a study seeking to improve on-task behavior for a student receiving intense behavioral supports in an inclusion class (Majeika et al., 2011), a functional behavior analysis showed that the student required a number of antecedent and reinforcement changes, including more structure to clarify behavior expectations of how to seek the teacher’s attention. To accomplish increased clarity, the teacher altered the classroom routine for the beginning of class or activity change by giving the whole class a reminder prompt about how to get her attention for help during the class period. By providing the reminder prompt to everyone at once, the teacher provided guidance and clarity for the target student to get attention in a way that was acceptable for the social expectations of the class. The study results indicated the personalized intervention package, including prompting,
resulted in higher intervals of on-task behavior and maintenance of the improvement over time (Majeika et al., 2011).

Providing Specific Praise

One example of a reinforcer that promotes reciprocal positive interaction between teachers and students is the use of specific, contingent praise by the teacher following desired student behavior (Marchant & Anderson, 2012). Specific praise delivers teacher approval along with a clear explanation or reference to the behavior the student is being praised for having carried out (Sutherland, Wehby, & Copeland, 2000). Specific praise is more effective than general praise for contributing to positive interactions (Sutherland et al., 2000) and impacting future student behavior (Brophy, 1983) and has also been called “instructive praise” when it includes a rationale for the praised behavior (Marchant & Anderson, 2012, p. 24). Praise, even when given for “approximations of the desired behavior,” helps students see their own progress and “enhances the relationship between student and teacher by demonstrating that the teacher is aware of the student’s accomplishments” (Cortez & Malian, 2013, p. 55). Researchers have shown that increasing the rate of even general praise can decrease the rate of student disruptive behavior in the elementary classroom (Mesa, Lewis-Palmer, & Reinke, 2005). Additionally, increasing the rate of specific praise has been shown to result in improved on-task behavior (Cox, Griffin, Hall, Oakes, & Lane, 2011; Sutherland et al., 2000; Thompson, Marchant, Anderson, Prater, & Gibb, 2012), classroom behavior (e.g., Coffee & Kratochwill, 2013; Mesa et al., 2005), attendance (Caldarella, Christensen, Young, & Densley, 2011), work completion (Lee & Laspe, 2003), academic interest (Chalk & Bizo, 2004), and accuracy (Darch & Gersten, 1985) for students of all ages, with and without disabilities. Specific praise has been used effectively with students with E/BD to increase on-task behavior (Sutherland et al., 2000), with students
with E/BD to decrease cursing, noncompliance, and disruptive behaviors in residential centers (Kennedy, Jolivette, & Ramsey, 2014), and with students with autism to improve work-related and social behaviors (Rigsby-Eldredge & McLaughlin, 1992).

In addition, specific praise requires no materials, does not cost anything, and requires little time or intrusion into classroom routines (Stormont & Reinke, 2009). Unfortunately, existing research shows that teachers’ natural rate of specific praise delivery is universally low (e.g., Shores, Jack, et al., 1993). While effective ways of increasing rates of praise have been identified in the empirical literature, they typically involve external planning or monitoring (e.g., Duchaine, Jolivette, & Fredrick, 2011; Hawkins & Heflin, 2011; Simonsen, Myers, & DeLuca, 2010). Such methods include supplying researcher feedback to teachers on their praise rates (Hawkins & Heflin, 2011; Simonsen et al., 2010; Smith, Lewis, & Stormont, 2011; Stormont et al., 2007) and use of consultation with performance feedback (Duchaine et al., 2011; Reinke, Lewis-Palmer, & Merrell, 2008). There is, however, a need for less intense but equally effective ways of increasing teacher specific praise use to increase the likelihood of maintaining gains (Kalis, Vannest, & Parker, 2007).

**Prompting and Praise**

While the use of specific praise is a relatively spontaneous management strategy, delivered in response to student desired behavior or approximations of desired behavior, using prompts to teach and remind students of classroom expectations can be implemented as a planned, structured daily routine. It stands to reason that teachers could use prompting for expected behaviors to craft a daily routine that contributes to the probability that the ensuing teacher-student interactions are positive and reciprocal.
Only two studies have examined the effect of behavior prompting within a package on teacher behaviors associated with reciprocal teacher-student interactions. Both Elswick and Casey (2011) and Lannie and McCurdy (2007) investigated the effect of implementation of the Good Behavior Game on teacher rate of general praise delivery. The Good Behavior Game includes instruction in rules as a component of game implementation, and the teacher monitors and records deviations from the rules during normal instruction; the winning team accumulates the fewest deviation points. The results of the studies were mixed. There was no change in general teacher praise in Lannie and McCurdy (2007), but they also did not document fidelity of daily review of the classroom behavior expectations (game rules). Conversely, Elswick and Casey (2011) showed increased rates of general praise, and included daily review of rules as an element measured in teacher fidelity of implementation. Neither study examined the effects of game implementation on specific praise rate, nor separately examined the effect of prompting for rules apart from the rest of the game.

It has been shown that the use of posted rules to provide unemotional, brief reminders to correct student deviations from behavior expectations can enhance the impact of existing posted classroom rules (Landers et al., 2008). It is reasonable to suppose that if teachers were to incorporate the language of classroom behavior expectations in specific praise for compliance to the rules, it could further serve to enhance existing classroom structures. Therefore, the interplay between the planned implementation of behavior prompting and the responsive delivery of specific praise warrants examination. Given that behavior prompting is a core element of effective classroom management interventions and programs, it is important to examine its impact separately from other management components and its effect on other management component, particularly for teacher verbal interactions with students. The goal of this review was
to synthesize the experimental research for the effect of behavior prompting for classroom expectations on specific praise use. However, because no literature exists that directly and exclusively examines this relationship, the two literatures were examined separately. The first systematic review was for behavior prompting for classroom expectations as an independent variable, and the second was for specific praise as a dependent variable. The review was specifically angled toward behavior prompting related to specific praise for one major reason: if a small change like providing prompts for class rules and expectations can increase the likelihood of specific praise, then researchers and professional development could shift toward smaller packages of teacher behaviors for improving classroom management. By making classroom management packages more streamlined and less complex to train and implement, they might increase the likelihood that teachers will implement and maintain their use.

**Guiding Questions**

A systematic review of the existing literature on specific praise as a dependent variable in high schools and behavior prompting as an intervention across grades was undertaken to guide the design of the current study and a potential line of future research. The guiding questions were:

1. How can teachers’ use of specific praise be increased in high school classrooms for students with disabilities?

2. What are the known effects of teachers’ use of prompting for classroom expectations when used in classroom settings?

**Method**

The review processes for each variable were structured similarly but conducted separately. The stages used in the process are summarized here and described in detail below.
First, research design elements of interest were established. Second, relevant publications were identified using database and hand searches and reduced using inclusion and exclusion criteria. Third, a structured summary was written for each identified study. Fourth, a synthesis was composed based on the pre-identified research design elements of interest, as well as observed themes that emerged. Finally, conclusions were discussed to guide directions for future results. What follows is a detailed description of the systematic search process for each variable.

**Specific Praise as a Dependent Variable in High Schools**

A range of nine psychological, behavioral, and educational databases were searched (Academic Search Complete, Consumer Health Complete - EBSCOhost, Education Full Text - H.W. Wilson, ERIC, PsycARTICLES, PsycEXTRA, Psychology and Behavioral Sciences Collection, PsychINFO, and Sociological Collection). Using the Boolean search and asterisks to allow for all grammatical forms of word roots, the phrase, “prais* AND teacher*” in abstracts and limited to scholarly (peer-reviewed) journals through EBSCOhost was searched. A total of 910 articles were returned after removal of exact duplicates by the search engine. Examination of the abstracts of these articles for relevance reduced the number of citations to 238 that contained interventions in which students were the recipients of praise from a teacher or adult. This number was reduced to 219 after removal of additional duplicates. Of these, 62 were determined to include teacher use of praise toward students as at least one of the distinct outcome measures. The studies that were conducted in a classroom setting with student classrooms or participants with identified disabilities of high school age were retained, for a total of five studies that met all inclusion criteria (Capizzi, Wehby, & Sandmel, 2010; Duchaine et al., 2011; Hawkins & Heflin, 2011; Kalis et al., 2007; Simonsen et al., 2010).
Then, hand searches of *Education and Treatment of Children, Journal of Positive Behavior Interventions, Preventing School Failure*, and *Teacher Education and Special Education* were conducted back to 2000. One additional article was identified (Everett, Olmi, Edwards, & Tingstrom, 2005) but was excluded because it did not include high school age students.

Next, ancestral searches were conducted of the bibliographies of the five included articles. Fifteen references were located as potentially relevant, and after review of all abstracts, three were identified with praise as a dependent variable. Two included only elementary school participants (Morgan, Menlove, Salzberg, & Hudson, 1994; Rathel, Drasgow, & Christie, 2008). One involved high school participants (Miller, Harris, & Watanabe, 1991); however, further review showed that praise was not reported separately but only as part of a composite measure of effective instructional methods. Thus, no additional qualifying articles were found in the ancestral search of the primary intervention studies.

Finally, an electronic search of dissertations was conducted in Dissertations & Theses (ProQuest). Using the Boolean search and asterisks to allow for all grammatical forms of word roots, “prais* AND teacher*” was searcher in abstracts. A total of 623 articles were returned. Examination of the abstracts of these articles for relevance reduced the number of citations to 83 that contained interventions in which students were the recipients of praise from a teacher or adult. Review of abstracts determined that 41 contained praise as a dependent variable. The 41 abstracts were re-examined, and strict inclusion criteria were applied in which an abstract was required to explicitly identify a high school setting with praise or behavior-specific praise as an outcome measure. With these criteria, no additional qualifying articles were found. In sum, 5 articles that met inclusion requirements were reviewed.
Behavior Prompting as an Intervention across All Grades

A range of nine psychological, behavioral, and educational databases were searched (Academic Search Complete, Consumer Health Complete – EBSCOhost, Education Full Text – H.W. Wilson, ERIC, PsycARTICLES, PsycEXTRA, Psychology and Behavioral Sciences Collection, PsychINFO, and Sociological Collection). Because only one relevant study with high school age students was identified in initial searches (McNamara, 1984), the database searches were not limited to peer-reviewed journals or high school populations. A variety of search terms were applied separately in an effort to identify all possibly relevant articles. Results from searches were categorized as intervention, non-intervention, or other meaning/off topic (e.g., prompting applied to academic skill such as reading or vocabulary rather than social or behavioral expectations; prompting applied to life-skill or independent living, self-help skill; prompting applied to a nonacademic setting such as medical applications or home; lack of specificity in how appropriate or expected behaviors would be taught or prompted; students not being the recipients of the prompting or instruction in desired behaviors). The following searches of terms related to prompting were conducted, and results were categorized based on a reading of the abstracts:

1. "classroom expectations" or "behavioral expectations" and "classroom" (total = 36, intervention = 3, non-intervention = 33);
2. “teach(ing) desired behavior(s)” or “teach(ing) appropriate behavior(s)” or “teaching appropriate behaviours” (total = 40, intervention = 0, non-intervention = 36, other meaning or other off-topic = 4);
3. “antecedent prompt” or “antecedent prompts” or “antecedent prompting” (total = 23, intervention = 0, non-intervention = 7, other meaning or other off-topic = 16);
4. Pre-teach* (total = 131, intervention = 2, nonintervention = 27, other meaning or other off-topic = 102);

5. “precorrection” or pre-corr* (total = 56, intervention = 13, non-intervention = 9, other meaning or other off-topic = 34);

6. “pre-correction” (total = 15, intervention = 7, non-intervention = 0, other meaning or other off-topic = 8); and

7. A final search of all databases available through EBSCOHost (86 total) was conducted for the keyword “precorrection.” (total = 54, intervention = 12, non-intervention = 6, other meaning or other off-topic = 36).

Thus, a total of 37 potentially relevant intervention studies and one conference paper with behavioral prompting by teachers initially categorized as an independent variable were found through database searches. Eighteen were duplicated in the results, and 19 total studies remained after removal of duplicates. In addition, three articles had been identified as potentially relevant during the review of abstracts during the systematic review of praise literature, and these were examined for further relevance.

Therefore, copies of the articles were obtained for these 22 studies, and they were examined in light of inclusion and exclusion criteria listed below:

1. confirmation of behavior prompting as an independent variable. Articles were excluded if closer examination showed that prompting was a dependent variable (Conroy et al., 2014) or not clearly specified (Stormont, Covington, & Lewis, 2006; Stormont et al., 2007).

2. behavior prompting in the form of verbal and/or written social prompts for classroom behavior expectations. Articles were excluded if prompting was in the form of academic prompts such as pre-teaching vocabulary words prior to reading (Miao et al., 2002) or as part
of a highly specialized behavioral compliance package for individuals with severe behavior rather than targeting typical classroom behavior (Colvin, Sessions, & Singer, 1983).

3. occurred within a classroom setting during instruction. Articles were excluded if they were conducted in a non-classroom setting such as during recess (Lewis et al., 2000; Lyons, 2006), in hallways or other transition spaces (Colvin et al., 1997; Oswald, Safran, & Johanson, 2005), during transition routines (Haydon et al., 2012), or in the gymnasium (Haydon & Scott, 2008).

4. occurred repeatedly or daily. Articles were excluded if behavior prompting was delivered one time at the beginning of intervention (Smith, Schumaker, Schaeffer, & Sherman, 1982) or intensively but limited to the beginning of the school year (Cartledge, Sentelle, Loe, Lambert, & Reed, 2001).

Additionally, hand searches of *Journal of Behavioral Education, Journal of Applied Behavior Analysis, Educational Psychology,* and *Journal of Positive Behavior Interventions* were conducted back to 2000. Two articles meeting inclusion criteria were found (Donaldson, Vollmer, Krous, Downs, & Berard, 2011; Wright & McCurdy, 2012). Ancestral searches were conducted of the bibliographies of the 11 articles. Twelve references were selected for potential relevance, and after review of all abstracts, two were identified with a form of behavior prompting as an independent variable. One targeted social behaviors for students in a playground setting (Gena, 2006), and the other targeted behavior related to daily living skills (Lancioni et al., 2001). Thus, no additional qualifying articles were found in the ancestral search of the primary intervention studies. An electronic search of dissertations was not conducted separately because the original database searches were not limited to peer-reviewed journals, so dissertations were returned in the initial results. In sum, 11 articles met inclusion criteria and were reviewed.
Results

Specific Praise

Five articles that met inclusion requirements were reviewed. In all five cases, specific praise (Simonsen et al., 2010), also called behavior-specific praise (BSP: Capizzi et al., 2010; Kalis et al., 2007) or behavior-specific praise statements (BSPS: Duchaine et al., 2011; Hawkins & Heflin, 2011), was defined as being verbally delivered by the teacher and including a description of the specific student behavior that the praise followed. In their definition of BSP, Capizzi and colleagues also allowed for non-verbal approval-bearing gestures such as “a pat on the back or thumbs up” paired with gestures specifying the student’s behavior or product, such as “pointing at a correct answer” (2010, p. 196). Praise that did not identify specific student behavior was also measured by three research groups, and was referred to as general praise (Kalis et al., 2007; Simonsen et al., 2010), or non-behavior-specific praise statements (NBSPS: Hawkins & Heflin, 2011). In all of these cases, the authors measured both general and specific praise.

The following research design elements were considered to be important when reviewing relevant literature about specific praise: the populations and settings (teachers and students in classrooms in high schools for students with disabilities); the interventions (any interventions designed to increase teacher specificity or rate of specific praise); the study designs (single case or group designs examining the effect of an intervention on teachers’ rate, frequency, or type of praise) and the outcomes (rate or frequency of specific praise by teachers toward students was an outcome measure). In addition, each article was examined for its approach to measuring the intervention’s social validity. Social validity reflects participants’ perceptions of an intervention’s social importance or acceptability, is associated with teachers’ likelihood of
implementing the treatment with fidelity, and is a quality indicator of single-case studies (Horner, Carr, & Halle, 2005).

**High School Classroom Settings.** Very few studies were identified in high school settings. Of 67 studies that were initially identified with praise as the dependent variable, 25 included pre-K student participants, 40 included elementary-aged participants, 5 included middle school-aged participants, and 8 included high school-aged participants. After applying all inclusion and exclusion criteria, 5 studies remained that included high school participants. Only 3 studies exclusively targeted high school populations and settings (Duchaine et al., 2011; Hawkins & Heflin, 2011; Kalis et al., 2007), and the others included middle or elementary school students in addition to high school students (Capizzi et al., 2010; Simonsen et al., 2010). Capizzi and colleagues (2010) noted that the teachers in the various grade levels implemented different kinds of instructional techniques, which may have interacted with the rates of praise in unknown ways. They suggested that future research studies should focus on one schooling level.

All of the studies were conducted in special education, ranging from inclusive to alternative school settings. Reported disability categories of student participants included LD (Capizzi et al., 2010; Duchaine et al., 2011), E/BD (Capizzi et al., 2010; Duchaine et al., 2011; Hawkins & Heflin, 2011; Kalis et al., 2007; Simonsen et al., 2010), autism (Simonsen et al., 2010), other health impaired (OHI; Duchaine et al., 2011), and intellectual disability (reported as mental retardation in Simonsen et al., 2010). Classrooms in two of the studies were designated for students with severe behavior difficulties (Hawkins & Heflin, 2011; Simonsen et al., 2010) whether the class was composed solely of students with E/BD (Hawkins & Heflin, 2011) or included a variety of students with multiple classifications (Simonsen et al., 2010). While Horner and colleagues (2005) specify that the disability as well as the assessment(s), criteria, or
processes used to identify eligibility should be reported instead of reliance on students meeting state and local criteria for a given disability, no such detailed eligibility criteria or processes were described in any of the five studies.

There were 13 total teacher participants across the five studies, including pre-service, first-year, and experienced special education and general education teachers. Several observations were made by authors about their teacher participants that illustrate important characteristics to account for in study design. In the study with pre-service teachers (Capizzi et al., 2010), participants faced difficulties with consistent videotaping due to issues related to unpredictability in their placements. Also, teachers in Hawkins and Heflin (2011) volunteered to participate. It is possible that this may have reflected a strong confidence level and existing high level of class-wide on-task behavior, which may in turn have played a role in teachers’ responsiveness to the intervention. The authors noted that teachers who did not volunteer may benefit differently from the intervention than individuals who did volunteer. This may also be true for teachers with varying levels of experience, such as the first-year teacher in Kalis and colleagues (2007). First year teachers are more likely to lack experience and skill in managing resources and behavior efficiently, and may benefit greatly from the potential impact of an easily implemented intervention package (Kalis et al., 2007). Additionally, Duchaine and colleagues (2011) suggest that teacher instructional style may be a relevant factor affecting teacher responsiveness to coaching to increase praise delivery. Conclusions to draw from these observations are that experience, skill level, confidence, and selection processes may reflect teacher or pre-service teacher characteristics that are important to consider in study design. Systematic exploration of these teacher characteristics for an intervention may be necessary to
determine its generalizability and the necessary adjustments when implementing it across participants.

**Interventions.** A variety of interventions were implemented across studies. These included training modules (Simonsen et al., 2010) coaching (Duchaine et al., 2011), expert consultation (Capizzi et al., 2010), and performance feedback (Duchaine et al., 2011; Hawkins & Heflin, 2011; Simonsen et al., 2010). Additionally, several studies implemented forms of teacher self-regulation, including teacher self-evaluation (Capizzi et al., 2010), self-management (Simonsen et al., 2010), and self-monitoring (Kalis et al., 2007). In their results and discussion, Capizzi and colleagues (2010) note that their research design did not allow for the package of independent variables (expert consultation and self-evaluation) to be examined separately, so future research should limit or separate components of independent variables. Additionally, Simonsen and colleagues (2010) recommended that future research systematically manipulate the order and kind of self-management strategies introduced in teacher training. In their design, teachers chose from an array of self-management strategies, and the authors note that it was unclear how the variation may have affected the outcomes. The review of these studies suggests that the interventions used to increase praise were resource intensive, even if they involve a shift to self-regulatory activity. Investigations into less-intense methods may be desirable from a resources perspective.

**Designs.** Each of the five studies implemented single case designs. An A-B withdrawal design was used by Kalis and colleagues (2007) to determine the relationship between self-monitoring and rates of teacher praise statements. Multiple-baseline across teacher behaviors design was used by Simonsen and colleagues (2010) to explore a possible functional relation between teacher training with feedback and teachers’ use of multiple behaviors associated with
important classroom management strategies. Duchaine and colleagues (2011) used a multiple-baseline across teacher participants design to determine the effect of coaching with feedback on high school teachers’ frequency of BSPS and, in turn, the effect of subsequent increased BSPS on class-wide student on-task behavior. A multiple-design across teachers with embedded withdrawal design was used by Hawkins and Heflin (2011) to determine the effects of a video self-monitoring and visual performance feedback on rate and maintenance of BSPS. Capizzi and colleagues (2010) used a multiple-baseline across teachers design was used to determine whether expert consultation using videotapes of a teacher would affect teacher use of quality instructional components (including OTR and BSP) during subsequent lessons. In addition, this was the only study of the five that asked a research question about the social validity of the intervention for teachers.

Capizzi and colleagues (2010) videotaped classroom sessions and coded praise use from the video and recommended more than two videotaped sessions per week. The other research teams (Duchaine et al., 2011; Hawkins & Heflin, 2011; Kalis et al., 2007; Simonsen et al., 2010) used direct observation to calculate praise use. To measure general and/or specific praise, three research teams used a frequency count during observation periods of 10 minutes (Hawkins & Heflin, 2011; Kalis et al., 2007) or 15 minutes (Duchaine et al., 2011). Capizzi and colleagues (2010) converted frequency counts of BSP during lessons of varying lengths into rate per minute. Simonsen and colleagues (2010) used 10-second partial-interval recording in sessions that averaged 13 minutes long and reported the percentage of intervals in which general or specific praise occurred. However, they recommended that future research should use a frequency count rather than interval recording, as the target behaviors occurred at relatively low levels that are not well estimated using interval recording (Harrop & Daniels, 1986).
Outcomes. There were low rates of baseline specific praise statements across all studies. For comparison purposes, these have been converted to rates of specific praise statements per minute, where necessary, and are reported in Table 1. Across all five studies, the baseline rates of specific praise statements per minute ranged from 0 to .83 per minute. Three studies introduced teacher goals for increased SP as part of the intervention. Hawkins and Heflin (2011) implemented a formula that calculated goal criteria that were supplied to teachers, and in Duchaine and colleagues (2011), each teacher selected a goal for himself or herself. Finally, Kalis and colleagues (2007) worked with the one teacher participant to set a mutually agreed-upon goal.

In Hawkins and Heflin (2011), all teachers exceeded their goal rates of BSP during the intervention. For two of the three teachers, rates of BSP dropped below goal rate during the withdrawal phases. However, for the third, there was a drop but rates remained above the goal. The authors point out that this teacher’s goal rate was extremely low to begin with, due to low baseline. Kalis and colleagues (2007), found that teacher rates of specific praise statements exceeded baseline but fell short of the goal set by the teacher and researcher. There were strong effects even during withdrawal that the authors suggested may have been attributable to a newly existing teacher sense of self-confidence due to the introduction of the direct instruction format during the baseline and before the intervention. However, continued effects in withdrawal do indicate a lack of experimental control. In Capizzi and colleagues (2010), Simonsen and colleagues (2010), and Duchaine and colleagues colleagues (2011) intervention rates of BSP increased across all teachers. Only two to the three teachers in Duchaine et al. (2011) exceeded their self-selected target SP rates, however. One point made by Simonsen and colleagues that is
relevant to all the studies is that, with no research-verified optimal rates for SP, it is unclear how significant measured increases may be.

The teacher in Kalis and colleagues (2007) demonstrated maintenance of BSP rates that exceeded the target goal across three treatment withdrawal sessions. Two of the three teachers in Hawkins and Heflin (2011) and Duchaine and colleagues (2011) maintained BSP rates above their goals in maintenance probes. The remaining teachers completed interventions too late in the school year to have maintenance measures conducted. Duchaine and colleagues (2011) noted that it is important to start future studies early in the school year or the semester to allow for completion of all scheduled observation sessions. Hawkins and Heflin (2011) recommended that future research should use more than one maintenance probe session. In addition, if maintenance over time is a significant goal of the research, they suggest that self-monitoring elements (as implemented in Kalis et al., 2007) may need to be added to interventions designed to increase specific praise use. According to Kalis and colleagues (2007), the benefits of self-monitoring was that the intervention did not require the teacher to rely on outside information but could evaluate the effects herself.

It should be noted that the researchers in Hawkins and Heflin (2011) report that the video self-monitoring and visual feedback intervention process requires a great deal of preparation time to implement and may not be feasible in schools. Therefore, they recommend that continued research into less time-consuming methods of increasing teacher use of specific praise should be conducted. Similar opinions were expressed by Simonsen and colleagues (2010) in regard to the performance feedback portion of their intervention. Daily performance feedback was intense to provide, and may not be feasible to implement in school settings, so research into less-frequent performance feedback may be called for.
Behavior Prompting

Eleven articles that met inclusion criteria were reviewed. The following research design elements were of importance when reviewing the literature about behavior prompting: the populations and settings (teachers and students in high school classrooms were initially the targeted population); the interventions (any interventions in which teachers systematically implemented prompting for classroom expectations); the study designs (single case or group designs examining the effects of such an intervention); and the outcomes (what was affected and how).

Classroom Settings. Only one study was found to implement social behavior prompting as an independent variable in an high school population (McNamara, 1984). As this study was conducted in the United Kingdom and raised experimental design concerns, the search criteria were opened to all grade levels. The final list of identified studies spanned pre-K through high school settings. Most (9) of the studies were conducted in general education classrooms. Two were carried out in special education resource classrooms (Lohrmann & Talerico, 2004; Sprague & Thomas, 1997). Studies were conducted during every type of instructional content: language arts, math, social studies, science, foreign language, morning calendar time, functional skills, and health and wellness. There were two studies (Lohrmann & Talerico, 2004; Sprague & Thomas, 1997) that reported a total of 11 students with disabilities. There were 8 with LD, 2 with mild intellectual disabilities, and 1 with severe intellectual disabilities. In one study, the intervention was carried out by research staff, not the teachers (Sprague & Thomas, 1997). The total number of teacher participants across studies was 30.

Interventions. The intervention of behavior prompting was described and named in a variety of ways in the selected studies. After a thorough review of all the definitions from the
studies, the term behavior prompting was chosen as the term to be used for the remainder of this review because it implies that the teacher reminds students of social or academic behavior expectations before they enter a situation in which the behaviors are expected. The definitions and terms, methods of delivery, and methods of selecting behaviors to be prompted are discussed in the following sections. Where provided in the original articles, word-for-word examples of behavior expectations and/or behavior prompts are listed in Appendix A.

**Precorrection.** Behavior prompting was called “precorrection” by several researchers. Sprague and Thomas (1997) defined “precorrection” (spelled with no dash) in behaviorist terms as a “preventive intervention involving the manipulation of antecedent stimuli, behavioral rehearsal, and competing reinforcement” (p. 326). They describe a precorrection strategy as consisting of six steps: “(a) identify the context of the behavior; (b) specify expected behavior; (c) systematically modify the context; (d) conduct behavior rehearsals; (e) prompt expected behaviors; and (f) provide reinforcement for expected behaviors” (p. 326). For the purposes of defining behavior prompting for this review, the most relevant elements of this strategy are items (b): “specify expected behavior,” (d): “conduct behavior rehearsals,” and (e): “prompt expected behaviors” (p. 326). The precorrection routine used in the intervention was conducted using a standard protocol before difficult instruction consisting of the researcher telling the student the desired behaviors, modeling them, providing two trial opportunities to practice, and providing reminders. De Pry and colleagues (2002) also used “pre-correction” (spelled with a dash). This consisted of the teachers providing instructional prompting for desired behaviors prior to the group of students entering settings where target behaviors of concern were likely to occur. These prompts were “designed to focus the student on the desired or expected behavior” (p. 257). Harlacher (2009) also trained teachers to implement “pre-correction,” which consisted of
“reminding students to use [previously-taught Strong Kids curriculum] skills prior to engaging in various school activities” (p. 34). Several posters reminding students of several Strong Kids skills from earlier lessons about thinking clearly and managing anger were also mounted visibly in the classroom to be referred to when providing pre-correction.

**Rules.** Several studies implemented behavior prompting in the form of daily prompts for rules. Two studies involved the Good Behavior Game (Donaldson et al., 2011; Wright & McCurdy, 2012), in which compliance with common classroom behavior expectations is taught as the rules of the game. Behavior prompting for these expectations occurred in each study when the students received reminders of the rules prior to the start of the game each time it was played (Donaldson et al., 2011). Thus, daily reminders of rules for the game (Wright & McCurdy, 2012) served as behavior prompting within those closely-related interventions.

In Greenwood (1974), the teacher briefly reviewed the list of appropriate classroom rules that had been teacher-developed for the intervention on a daily basis; the rules were also posted on a bulletin board for the duration of the intervention phases. In Lohrmann and Talerico (2004), behavior prompting consisted of directly teaching behavior expectations that were positively worded at the start of the intervention and then providing daily reminders for the expected behaviors at the beginning of most lessons. In Volpe, Young, Piana, and Zaslofsky (2011), behavior prompting took the form of daily reiteration of the expectations for partner work during Kindergarten Peer-Assisted Literacy Strategies (K-PALS). As part of the intervention fidelity checklist, the step called, “rules are explained with examples,” (p. 58) was documented as an essential component of each lesson. At the beginning of each intervention session, the teacher reviewed classroom expectations, asked students to name the expectations, asked students for examples, and provided examples and non-examples of each rules. In McNamara (1984), the use
of rules was offered to teachers as one of four choices of intervention, to be presented at the
beginning of each lesson. The use of rules was defined and taught to teachers as establishing up
to four basic classroom rules that specifically defined appropriate behavior, verbally reading
them from a notecard at the beginning of the lesson, and referring to them during the lesson.

**Prompting and pre-teaching.** Teachers in Faul and colleagues (2012) were asked to
provide prompts for appropriate behavior prior to the students’ entry into the classroom using
scripts personalized to the desired behaviors for each student. The study compared a prompting
condition versus a non-prompting condition. LeGray et al. (2013) added a “pre-teaching
component” (p. 93) to a behavioral intervention of differential reinforcement of alternative
(DRA) behaviors, in which the pre-teaching was provided immediately prior to the beginning of
each observed session. The teacher took the student to a quiet part of the room and used a
scripted protocol that reminded the student of the behavior expectations and encouraged the
student to use the specified alternative behavior during the session. After reading the pre-
teaching script to the student, the protocol then required the teacher to ask two scripted questions
that checked for understanding and to use an errorless learning technique to provide correction if
necessary.

**Methods of selecting behaviors to be prompted.** In several studies, the teachers were
asked to identify the list of prompted behaviors. Lohrmann and Talerico (2004) instructed the
teacher to identify student behaviors that were of concern along with desired, incompatible
replacement behaviors. In consultation with the researcher, the final three class-wide
expectations were selected by the teacher. In McNamara (1984), teachers were provided with a
choice of any interventions they preferred from a list of four, one of which was the use of rules.
For the teacher participants that chose rules, they were asked to “identify up to four basic rules of
your classroom” (p. 122) and then to read and refer to them daily. Greenwood et al. (1974) asked teachers to choose and define classroom rules reflecting desired behaviors based on criteria provided by the researchers.

Other studies implemented behavior expectations defined by the school or the researchers. One school (De Pry & Sugai, 2002) had an active school-wide positive behavior management that included school-wide behavior expectations. Thus, the teacher’s implementation of pre-corrections centered on these existing expectations but applied to her classroom. Prompted behaviors for Wright and McCurdy (2012) included preselected game rules definition paired with explanations and examples specific to the Good Behavior Game and the Caught Being Good Game. The manuals for these interventions included a script used by teachers to explain the rules to the students. In (Volpe et al., 2011), the authors determined that the existing seven classroom expectations associated with the K-PALS manual needed to be adapted for the young age of the participants. After a classroom observation and in consultation with the teacher, the researchers shortened the list of classroom expectations to the three listed in Appendix A. The remaining studies reviewed did not specify the method of selecting the behaviors to be prompted.

**Behavior prompting as one element within a larger intervention.** Most of the studies examined for this literature review included other independent variables in addition to the use of behavior prompting, most often with behavior prompting as part of a package of behavior management elements within an intervention. The exception to this was Faul et al. (2012), who studied the effects of behavior prompting only (prompt versus no prompt). As noted by De Pry and Sugai (2002), conclusions cannot be made about the effectiveness of any one of a group of
packed components unless they are studied separately, which is needed in future research. In the following section, the additional elements packaged with behavior prompting are presented.

Donaldson et al. (2011) and Wright and McCurdy (2012) studied the Good Behavior Game, which is a class-wide group contingency behavior intervention. It consists of common classroom behavior rules that are explicitly taught, daily reminders of the rules, immediate feedback and correction for deviations from the rules, and class-wide rewards. Wright and McCurdy (2012) compared the Good Behavior Game to the Caught Being Good Game, which includes the same elements except that rather than providing corrections for deviations from the desired behaviors, the teacher reinforces positive instances of the target behaviors publicly.

De Pry and Sugai (2002) implemented a behavior management package they referred to as “planned responding” (p. 257), which consisted of active supervision, pre-correction, and daily data review conducted with a protocol by the researcher. In the study by Volpe et al. (2011), the researchers compared K-PALS alone with K-PALS and a classroom management strategy package. The classroom management strategy package consisted of reminding students of rules through behavior prompting, provision of behavior-specific feedback and praise, and tangible reinforcers provided contingently on student behavior. To investigate the effects of a social and emotional learning and social skills curriculum, the teachers in Harlacher (2009) implemented 12-13 scripted lessons along with a generalization package consisting of pre-correction and contingent praise throughout additional parts of the day. Lohrmann and Talerico (2004) investigated the effects of an intervention consisting of several parts. These were the identification and teaching of desired student behaviors that were incompatible with student target behaviors, daily verbal behavior prompts for the expected behaviors and reminders of the
reward goals before instruction, and a class-wide contingency system leading to class-wide rewards.

In McNamara (1984), teachers were allowed to choose the elements of the behavior strategy intervention package they wished to implement. The four possible components were reminders of rules, verbal praise, behavior-specific verbal disapproval, and evaluative statements following instruction. Three of the six teachers chose packages that included rules with other elements, but there was no systematic selection procedure or assignment of conditions.

**Comparing other variables with and without behavior prompting.** Greenwood et al. (1974) compared three conditions: (a) prompted rules, (b) prompted rules plus light feedback, and (c) prompted rules plus light feedback plus group consequences. Sprague and Thomas (1997) compared two conditions. They were the presentation of a hard task with and without a precorrection routine. LeGray et al. (2013) compared DRA with and without pre-teaching the alternative response before each session.

**Designs.** In Harlacher (2009), the study was a quasi-experimental group design with a wait-list feature for two teachers, with the other two teachers assigned to treatment. None of the research questions in this study directly addressed the role of behavior prompting when examining the effects of a social skills curriculum on students’ reported social and emotional learning and social skills. However, the implementation of behavior prompting for the social skills taught in the curriculum was a core component of the intervention and was explicitly taught to the teachers as part of the intervention training. The remaining 10 studies used single case designs, as noted in Table 2.

**Outcomes.** Teacher behaviors were measured as dependent variables in two studies. In Greenwood et al. (1974), the quality of teachers’ delivery of positive social consequences was
measured as percentages of correctly and incorrectly applied contingent and noncontingent social consequences. Results indicated that when training in reminders of rules was packaged with training in delivering social consequences using a group contingency, AND the teacher was praised by the researcher for fidelity, the accuracy and rate of teachers’ delivery of positive consequences increased. McNamara (1984) measured teacher approval and disapproval statements, but results were inconclusive.

**Social validity.** Over half of the studies did not report any social validity measures or interview results (Faul et al., 2012; Greenwood et al., 1974; Harlacher, 2009; Lohrmann & Talerico, 2004; McNamara, 1984; Sprague & Thomas, 1997). However, Greenwood et al. (1974) reported that all teacher participants independently implemented the intervention the next school year, which suggests treatment acceptability. Faul et al. (2012) noted that teachers told researchers that they looked forward to the end of the controlled study so they would be free to implement behavior prompting daily across settings. In Donaldson et al. (2011), student perceptions of social validity was informally conducted through class-wide votes for whether to continue using the Good Behavior Game in class for the rest of the year following the study. Over the four classes polled, 78% of the students voted to keep playing the game. No measures of teacher views of the acceptability of the intervention were reported; however, the authors noted that the transition from the experimenter to teacher implementation phases was smooth and did not result in increases of undesired behavior. Since one of the elements of social acceptability often addressed in social validity measures is teacher perception of whether the intervention can be implemented easily and effectively by teachers, observations of a smooth transition from researcher-implemented to teacher-implemented interventions could be taken as one indicator of the acceptability of the Good Behavior Game.
The teacher participant in De Pry and Sugai (2002) reported through a researcher-made Likert-type scale survey that the intervention package of pre-correction and active supervision was easy to use and that she would recommend it to others. Wright and McCurdy (2012) measured social validity using the Intervention Rating Profile (IRP-15; Witt & Elliott, 1985) and the Children’s Intervention Rating Profile. Teachers and students rated both behavior game interventions as acceptable. Volpe et al. (2011) also used an adapted version of the IRP-15 (Witt & Elliott, 1985) and reported a slightly positive teacher attitude. In addition, the students found the interventions acceptable. LeGray et al. (2013) used modified versions of the Assessment Rating Profile – Revised (ARP-R; Eckert, Hintze, & Shapiro, 1999) and the IRP-15 (Witt & Elliott, 1985) to assess teachers’ perceptions of the functional assessment process and intervention procedures. Teacher reports in the IRP-15 indicated they found the DRA with and without behavior prompting procedures equally acceptable.

Discussion

The purpose of this systematic review of the literature was two-fold. First, we sought to discover what research-based interventions have resulted in increased teacher SP in high school classrooms for students with disabilities. Second, we wanted to identify the documented effects when teachers use daily or frequent prompting or precorrection in classroom settings. Given the paucity of research on effective positive behavior supports for high school students with significant academic, social, and behavior needs, this review was necessary to establish the foundation for future research to support this student population and their teachers. Overall, the results suggest that (a) high school special education teachers are amenable to learning to increase SP and can do so successfully with direct training and additional supports, (b) routine behavior prompting can positively influence classroom behavior across ages in predominantly
general education settings, and (c) behavior prompting is usually applied as part of a system of other classroom management strategies.

**Increasing Teacher Specific Praise in High Schools**

Based on teacher ratings of acceptability and the predominance of these studies being conducted in special education settings, it seems apparent that SP in high school is associated with behavioral approaches to classroom management and is seen as needed by teachers who work with students who require increased effective reinforcement for compliant behavior.

All 5 interventions involved at least one formal training session in the use of SP with the addition of one or more additional elements of support such as feedback, consultation, or self-monitoring. This suggests that training in SP is necessary but not sufficient to result in increases in SP rates.

All of the studies used single case designs, which may be indicative of the special education population studied. Single case methods serve well for individual behavior change, and with the desired teacher behavior change in these studies, the design choice may also reflect the behavioral nature of the intervention. In addition, SP was found by all studies to be a naturally low-occurring behavior, which can be well-represented in frequency counts in a single-case study.

Teacher praise rates were increased above baseline levels in all the high school studies. This suggests that with training and outside support, teachers can increase their use of positive verbal interactions with students who have mild to severe behavior problems.

**Effects of Behavior Prompting**

The vast majority of the studies featuring behavior prompting as an independent variable or as part of a packaged independent variable in classrooms were carried out in general education
settings by the classroom teachers. They were conducted in all academic and elective subject areas and largely with students younger than adolescence. These suggest that behavior prompting has wide generalizability across settings and severity of student behaviors and can be implemented by practitioners.

The terms used for behavior prompting were quite variable. The most common term was rules, but the two studies targeting special education populations used the term precorrection. This suggests that the training and theoretical perspective of the researchers and/or teacher participants is reflected in the selection of terminology for research. For researchers wishing to reach an inclusive special education audience, identifying terms that are descriptive to both general educators and special educators may be helpful. For this purpose, the phrase “behavior prompting” may be suitable.

All but one of the research designs used to study the effects of behavior prompting were variations of single-case. As with SP, this suggests that the behavior changes required of teachers when receiving training in classroom management methods are well captured in single case designs.

The majority of the studies examined the effects of behavior prompting on student outcomes, not teacher outcomes. However, in one of the two cases where teacher outcomes were dependent variables, researchers reported improvements in teacher verbal and social consequence delivery only when teachers were provided praise by the researchers for their fidelity in implementing the package for which they had been trained, of which rule delivery was one part. Like SP, this suggests that training in behavior prompting might need to be accompanied by additional supports; however, a lack of treatment fidelity measures across studies makes it impossible to conclude this with any level of certainty.
Limitations

The findings of this synthesis are limited by the breadth of the available literature for the subjects. First, a lack of consensus on the nature and name of class-wide behavior prompting methods means that it is hard to determine whether the use of rules or prompting in each study is comparable. Second, limited studies conducted with adolescents means that we must draw conclusions from a very small number of studies about SP in high school and virtually no studies about behavior prompting in high school. Many questions remain to be answered in the research for these to variables with high school.

Implications for Future Research

No social validity measures (surveys or interviews) were conducted with student participants for SP and only two for behavior prompting. Because one of the possible arguments against the study of SP in high schools is that social and developmental characteristics of adolescents may render SP less effective as a form of positive behavioral reinforcement (Brophy, 1981), it is essential that future researchers include student perceptions of praise itself as well as any interventions intended to increase teacher rates of praise. This means that the conditions of praise and prompting delivery need to be explored to determine if there are optimal ways, times, and content students find acceptable when teachers interact with them regarding classroom behavior. Perhaps student perceptions and preferences are also needed to identify the significance of SP increases and optimal levels of both prompting and praise.

Very few studies that presented packaged classroom management systematically examined the effects of the components separately. This was evident through the lack of treatment fidelity or adherence measures used for teacher implementation of rules or behavior prompting within the studies. Given that the development and posting of classroom expectations
is ubiquitous in teacher training and schools, it is surprising that evidence for the benefits of the use of rules and class-wide behavior prompting was so difficult to find in the literature, and that it was nonexistent in the United States for high schools. This is particularly stark when one considers the high numbers of studies found for specific praise in kindergarten through middle school. Many researchers have studied the effects of specific praise and how to increase it at these levels of schooling. However, at all levels, very few have investigated behavior prompting. When asking what is necessary for teachers to implement class-wide behavior prompting with fidelity, the answer is not readily available. Future research is needed into the effects of teacher rule and expectation delivery, and detailed documentation of training and fidelity measures is necessary to continue to understand the nature of this universally accepted but under-defined teacher behavior.

With regard to teachers, many questions remain about teacher characteristics affecting responsiveness to interventions for improving classroom management techniques. What is not clear from the studies that were examined is what degree of problem behavior is deemed by teachers as warranting teacher training and increases in prompting and praise, and below what thresholds of problem behavior teachers would not find prompting or praise necessary, acceptable, or effective. For example, would general education or advanced curriculum teachers regard use of prompting and specific praise as necessary for their perceived levels of student problem behavior, and would those perceptions affect their responsiveness to training?

Finally, the necessary intensity of the specific praise interventions appears problematic. Additional researcher support was necessary, in addition to training in specific praise delivery, to result in the desired levels of teacher specific praise change. More than one research team stated that the intensity of their intervention would be unsustainable after the study in a school setting.
While self-monitoring was introduced in one study as a possible method of transferring control of specific praise rates to teachers (Simonsen et al., 2010), results from a survey in another study indicated that teachers disagreed that self-monitoring would be a desired method of supporting specific praise increases (Hawkins & Heflin, 2011). Further exploration of self-monitoring is warranted, but so is identifying structured packages of daily classroom routines and procedures that might serve as prompts and supports for other, more spontaneous, classroom management strategies. For instance, if teachers can implement a behavior prompting routine to fidelity after training without requiring additional supports, can the daily routine itself serve as a prompt for the teacher to deliver more specific praise? Can other, more easily maintained, teacher behaviors take the place of the researcher-heavy interventions found in this review?

Conclusion

In sum, the findings of this literature review are well-illustrated by the purpose and results of the only study found to address behavior prompting as the independent variable for a high school population. The goal of that study was to demonstrate the potential of “light behavioral strategies” (McNamara, 1984, p. 106) that require little disruption of change to teacher routines. Identifying the potential interplay between teacher classroom management behaviors was also the purpose of the current literature review. The limitations of McNamara’s study provide insight into the necessary design of future studies into the effectiveness of interventions like behavior prompting. First, systematic evaluation of classroom management strategies is needed at the high school level, especially for students at-risk for school failure because of behavior or learning difficulties. Second, there is a need for gathering high school student perspectives about how classroom management strategies affect their relationships with their teachers. Finally, findings about classroom management strategies for students with
disabilities need to be replicated and extended in general education and advanced curriculum settings to determine their generalizability. Questions like these warrant further study, and could result in better understanding of the management strategies we already ask teachers to implement regularly.
References

* indicates studies included in literature review for specific praise as a dependent variable

** indicates studies included in literature review for behavior prompting as an independent variable


### Table 1

**Articles Reviewed for Specific Praise (SP) in High School**

<table>
<thead>
<tr>
<th>Author</th>
<th>Design</th>
<th>Settings</th>
<th>Students</th>
<th>Teachers</th>
<th>Intervention</th>
<th>% of sessions with IOA</th>
<th>Summary of findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capizzi, Wehby, &amp; Sandmel (2010)</td>
<td>Multiple baseline across teachers</td>
<td>Resource special education Math instruction Elementary, middle &amp; high school</td>
<td>LD, E/BD</td>
<td>Pre-service graduate level special education</td>
<td>Expert consultation using video models w/ teacher self-evaluation</td>
<td>28%</td>
<td>Baseline SP: .30-.83 per minute Intervention SP: .74-1.07 per minute</td>
</tr>
<tr>
<td>Duchaine, Jolivette, &amp; Fredrick (2011)</td>
<td>Multiple baseline across teachers</td>
<td>Co-taught inclusion Math instruction High school</td>
<td>LD (N = 9), E/BD (N = 4), OHI (N = 3) 9th grade repeaters Ages 15-17</td>
<td>Certified special education Certified general education</td>
<td>Coaching &amp; performance feedback</td>
<td>42%-47%</td>
<td>Baseline SP: 0-.02 per minute Intervention SP: .25-.65 per minute Maintenance SP: .6-.63 per minute</td>
</tr>
<tr>
<td>Hawkins &amp; Heflin (2011)</td>
<td>Multiple baseline across teachers with embedded withdrawal</td>
<td>Alternative school self-contained Multiple subjects High school</td>
<td>E/BD (N = 27) Ages 14-19</td>
<td>Certified and non-certified special education</td>
<td>Performance feedback</td>
<td>20%</td>
<td>Baseline SP: .01-.14 per minute Intervention SP: .24-.58 per minute Maintenance SP: 0-.9 per minute</td>
</tr>
<tr>
<td>Kalis, Vannest, &amp; Parker (2007)</td>
<td>A-B Withdrawal</td>
<td>Self-contained special education Math instruction High school</td>
<td>E/BD (N = 5) Grades 9-11</td>
<td>Non-certified special education</td>
<td>Teacher self-monitoring</td>
<td>28%</td>
<td>Baseline SP: 0 per minute Intervention SP: mean .44 per minute Maintenance SP: mean .6 per minute</td>
</tr>
<tr>
<td>Simonsen, Myers, &amp; DeLuca (2010)</td>
<td>Multiple baseline across teacher behaviors</td>
<td>Alternative school self-contained Multiple subjects Middle school &amp; high school</td>
<td>E/BD, autism, intellectual disability Ages 11-18</td>
<td>Certified special education</td>
<td>Training modules &amp; performance feedback w/teacher self-management</td>
<td>15%</td>
<td>Baseline SP: 1.4% of intervals (approximately .08 per minute) Intervention SP: 14.9% of intervals (approximately .89 per minute)</td>
</tr>
</tbody>
</table>
### Table 2

**Articles Reviewed for Behavior Prompting**

<table>
<thead>
<tr>
<th>Author (year)</th>
<th>Design</th>
<th>Setting</th>
<th>Students</th>
<th>Form of Prompting (delivery) [packaged or alone]</th>
<th>Summary of findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>De Pry &amp; Sugai (2002)</td>
<td>ABAB alternating treatments design</td>
<td>General Education Social Studies</td>
<td>Middle School Whole Group</td>
<td>Pre-correction for whole group prior to setting changes</td>
<td>Rate of behavior incidents fell and remained below baseline across both treatments</td>
</tr>
<tr>
<td>Donaldson, Vollmer, Krous, Downs, &amp; Berard (2011)</td>
<td>Nonconcurrent multiple baseline design across classrooms</td>
<td>General Education</td>
<td>Kindergarten Whole Group</td>
<td>Reminders of game rules before behavior game</td>
<td>Decrease in rates of targeted students’ disruptive behaviors</td>
</tr>
<tr>
<td>Faul, Stepensky, &amp; Simonsen (2012)</td>
<td>Alternating treatments design</td>
<td>General Education Math, Reading, &amp; Science</td>
<td>Middle School Individual students</td>
<td>Prompts for desired behavior before entering class</td>
<td>Decrease in off-task behavior</td>
</tr>
<tr>
<td>Greenwood, Hops, Delquadri, &amp; Guild (1974)</td>
<td>Multiple baseline across conditions</td>
<td>General Education</td>
<td>Elementary School Whole group</td>
<td>Reminders of classroom rules before daily lessons</td>
<td>Improvements in student behavior and increases in teacher contingent praise only with reminders paired with teacher feedback and group consequences</td>
</tr>
<tr>
<td>Harlacher (2009)</td>
<td>Quasi-experimental wait-list</td>
<td>General Education Health &amp; Wellness</td>
<td>Elementary School Whole group</td>
<td>Pre-correction before changing settings</td>
<td>Growth in social and emotional learning and social skills plus increases in self-reported teacher rates of praise</td>
</tr>
<tr>
<td>LeGray, Dufrene, Mercer, Olmi, &amp; Sterling (2013)</td>
<td>ABAB alternating treatments design</td>
<td>General Education Early literacy instruction</td>
<td>Preschool &amp; Kindergarten</td>
<td>Pre-teaching before DRA sessions</td>
<td>Increase in appropriate vocalization and decrease in inappropriate vocalizations</td>
</tr>
<tr>
<td>Lohmann &amp; Talerico (2004)</td>
<td>Multiple baseline across subject areas</td>
<td>Special Education Resource Language Arts, Reading, &amp; Math</td>
<td>Elementary School Whole group</td>
<td>Reminders of classroom expectations before most lessons</td>
<td>Drops in problem behaviors to near zero levels</td>
</tr>
<tr>
<td>Author (year)</td>
<td>Design</td>
<td>Setting</td>
<td>Students</td>
<td>Form of Prompting (delivery) [packaged or alone]</td>
<td>Summary of findings</td>
</tr>
<tr>
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<td>-------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>McNamara (1984)</td>
<td>Separate case studies with ABA design</td>
<td>General Education Multiple Subjects</td>
<td>(British) Secondary School Whole group</td>
<td>Reminders of rules before daily lessons</td>
<td>No conclusive results</td>
</tr>
<tr>
<td>Sprague &amp; Thomas (1997)</td>
<td>ABCBC design</td>
<td>Special Education Resource Functional Math &amp; Language</td>
<td>10 years old Individual Student</td>
<td>Precorrection strategy before difficult instruction</td>
<td>Decrease in student problem behavior</td>
</tr>
<tr>
<td>Volpe, Young, Pina, &amp; Zaslofsky (2011)</td>
<td>ABC design comparing means of two groups (responders and non-responders)</td>
<td>General Education</td>
<td>Kindergarten Whole group</td>
<td>Reminders of expectations before partner work</td>
<td>Increase in student active engagement No change in student passive engagement Increase in teacher-directed instruction Responders outperformed non-responders</td>
</tr>
<tr>
<td>Wright &amp; McCurdy (2012)</td>
<td>ABAC withdrawal design with intervention counterbalanced across two classrooms</td>
<td>General Education Language Arts</td>
<td>Kindergarten Elementary School Whole group</td>
<td>Reminders of game rules before behavior game</td>
<td>Improved on-task and disruptive behavior rates for both counterbalanced conditions</td>
</tr>
</tbody>
</table>
HIGH SCHOOL TEACHERS’ USE OF POSITIVE BEHAVIOR SUPPORTS:
EFFECTS OF USING A PROMPTING ROUTINE FOR CLASS WIDE BEHAVIOR
EXPECTATIONS ON TEACHER SPECIFIC PRAISE

Economic and professional success in adulthood largely depend on one’s educational attainment (Carnevale, Rose, & Cheah, 2011; Ryan & Siebens, 2012). Therefore, it is important for the education community to invest in increasing the use of evidence-based practices associated with helping struggling students stay in high school until completion. For these students, one important factor in remaining in school is the quality of interactions they experience with their teachers in classes that have high academic and social expectations (Christle, Jolivette, & Nelson, 2007; Knesting, 2008).

Unfortunately, positive teacher-student interactions can be difficult to establish when teaching students with high-incidence disabilities such as attention difficulties, learning disabilities (LD), and emotional/behavior disorders (E/BD), who often display disruptive or noncompliant behaviors and are significantly more likely not to complete high school than students without disabilities (Deshler et al., 2004; Kaufman, Alt, & Chapman, 2004; Sutherland, 2000). One reason is that teachers in classrooms with high rates of disruptive behavior may utilize coercive classroom management techniques such as frequent reprimands (Haydon & Hunter, 2011) because such methods can result in short term desired student behavior change (Alber & Heward, 2000; Shores, Gunter, & Jack, 1993). However, it is desirable for teachers to choose classroom management routines associated with positive teacher-student interactions over coercive techniques that may eventually contribute to early school leaving (e.g., Shores, Gunter, et al., 1993). One model for social interaction proposes that positive, mutually reinforcing verbal exchanges between family members increase the probability of future positive
interactions between them (Patterson & Reid, 1970). We propose that this positive reciprocal interaction model can inform recommended practices for positive teacher-student interactions as well as families (Conroy & Sutherland, 2012; Shores, Gunter, et al., 1993). However, teachers that wish to promote this cycle in their classes may need to initiate planned, structured classroom routines that support positive interactions with students. Some examples are to explicitly teach desired behaviors, to keep a list of them posted where students can see, to remind students of these expectations frequently throughout the day, and to provide reinforcement when students comply. Use of these procedures has been shown to impact student behavior positively (Landers, Alter, & Servilio, 2008; MacSuga-Gage, Simonsen, & Briere, 2012; Marchant & Anderson, 2012). This study focused on the interplay of two such strategies implemented by teachers for high school students with disabilities: prompting for behavior expectations and providing specific praise (SP).

**Prompting for Behavior Expectations**

Teaching students what to do for success in different settings and reminding them of those expectations before entering the environment or activity is one example of a planned classroom routine for behavior management (De Pry & Sugai, 2002). This is also referred to as the use and reminders of rules, pre-correction, and prompting (Colvin, Sugai, Good, & Lee, 1997; Conroy, Sutherland, Vo, Carr, & Ogston, 2014; Gable, Hester, Rock, & Hughes, 2009; Haydon, DeGreg, Maheady, & Hunter, 2012; Kostewicz, Ruhl, & Kubina Jr., 2008; Stormont, Smith, & Lewis, 2007). Prompting can be used class-wide to establish and increase overall group compliance (e.g., Lohrmann & Talerico, 2004). It has been shown to be helpful for young children who struggle with attention and impulsivity problems (Stormont et al., 2007) and other students with behavior and academic problems (Lewis, Colvin, & Sugai, 2000; Miao, Darch, &
Rabren, 2002; Sprague & Thomas, 1997). Prompting for behavior expectations has been applied in research for preschools (e.g., Stormont et al., 2007), elementary schools (e.g., LeGray, Dufrene, Mercer, Olmi, & Sterling, 2013), and middle schools (De Pry & Sugai, 2002). However, only one study (McNamara, 1984) has examined its effects with high school-aged students, in a mixed-age study.

In addition, prompting for expected behavior also can play an important role in resolving more serious and frequent behavior problems (Crosby, Jolivette, & Patterson, 2006; Ennis, Schwab, & Jolivette, 2012; Haydon & Scott, 2008). In a study seeking to improve on-task behavior for a student with intense behavioral difficulties in an inclusion class (Majeika et al., 2011), functional behavior analysis showed that the student required more structure to learn how to seek the teacher’s attention. To accomplish the necessary increased structure, the teacher prompted the whole class before each lesson about how to get her attention for help. By providing the reminder prompt to everyone at once, the teacher provided guidance and clarity for the target student to get attention in a way that was acceptable for the social expectations of the class. The study results indicated the intervention package, including prompting, resulted in higher intervals of on-task behavior and maintenance of the improvement over time (Majeika et al., 2011).

Providing Specific Praise

A teacher-provided consequence that may promote reciprocal positive interaction in classrooms is the delivery of specific, contingent praise by the teacher for student behavior (Marchant & Anderson, 2012). Specific praise includes approval and a description of the behavior the student is being praised for and is more effective than general praise for contributing to positive interactions and impacting future student behavior (Brophy, 1983;
Increased teacher rates of specific praise has been shown to result in improved on-task and classroom behavior (Coffee & Kratochwill, 2013; Cox, Griffin, Hall, Oakes, & Lane, 2011; Mesa, Lewis-Palmer, & Reinke, 2005; Sutherland et al., 2000; Thompson, Marchant, Anderson, Prater, & Gibb, 2012) attendance (Caldarella, Christensen, Young, & Densley, 2011), academic work completion, interest, and accuracy for students of all ages (Chalk & Bizo, 2004; Darch & Gersten, 1985; Lee & Laspe, 2003). For students with disabilities, SP has been used to increase on-task behavior (Sutherland et al., 2000), to decrease cursing, noncompliance, and disruptive behaviors (Kennedy, Jolivette, & Ramsey, 2014), and to improve work-related and social skills (Rigsby-Eldredge & McLaughlin, 1992). For secondary students, teacher or peer-delivered praise has been shown to result in improved on-task behavior (Houghton, Wheldall, Jukes, & Sharpe, 1990), reading achievement (Clark & Walberg, 1968), social involvement (Peterson Nelson, Caldarella, Young, & Webb, 2008), and student questioning (Borchert, 1977). With students at the high school level, these studies have only been conducted in special education settings, in either co-taught (Duchaine, Jolivette, & Fredrick, 2011) or self-contained classes (Capizzi, Wehby, & Sandmel, 2010; Hawkins & Heflin, 2011; Kalis, Vannest, & Parker, 2007; Simonsen, Myers, & DeLuca, 2010). High school participants have included students with learning disabilities (Capizzi et al., 2010; Duchaine et al., 2011), E/BD (Capizzi et al., 2010; Duchaine et al., 2011; Hawkins & Heflin, 2011; Kalis et al., 2007; Simonsen et al., 2010), autism (Simonsen et al., 2010), other health impaired (Duchaine et al., 2011), and intellectual disability (Simonsen et al., 2010). Interventions resulting in increased teacher SP rates have included training modules with performance feedback (Simonsen et al., 2010), coaching with performance feedback (Duchaine et al., 2011), expert
consultation with teacher self-evaluation (Capizzi et al., 2010), and performance feedback alone (Hawkins & Heflin, 2011).

One particular advantage of SP is that it requires little time or interruption of classroom routines and costs nothing (Stormont & Reinke, 2009). However, teachers’ natural rate of SP delivery is universally low (e.g., Shores, Jack, et al., 1993). Effective ways to increase praise rates typically involve external personnel support in the form of planning or monitoring by researchers (e.g., Duchaine et al., 2011; Hawkins & Heflin, 2011; Simonsen et al., 2010). They include feedback to teachers about their praise rates (Hawkins & Heflin, 2011; Simonsen et al., 2010; Smith, Lewis, & Stormont, 2011; Stormont et al., 2007) and consultation with performance feedback (Duchaine et al., 2011; Reinke, Lewis-Palmer, & Merrell, 2008). However, there is a need for effective but less intense methods of increasing teacher SP so that gains are more likely to be maintained (Kalis et al., 2007).

**Prompting and Praise**

Though SP is often delivered spontaneously, prompting students for classroom expectations can be used as a structured daily routine. Teachers could develop a daily routine of prompting for desired student behaviors to increase the likelihood that ensuing classroom verbal interactions are positive and reciprocal and to enhance the impact of existing posted classroom rules (Landers et al., 2008). If teachers also incorporated the language of classroom rules in their SP delivery, it could further enhance effectiveness of existing classroom procedures. Therefore, the interplay between implementation of frequent behavior prompting and delivery of SP warrants study. If a small change like providing prompts for class rules and expectations can increase the likelihood of SP delivery, then researchers could shift toward using smaller packages of training teacher behaviors for improving classroom management. By making
classroom management procedures more streamlined and less complex to train and implement, they might increase the likelihood that teachers will implement and maintain their use. In addition, teachers report that classroom interventions are more acceptable when they only require small or moderate amounts of extra time to implement (Martens, Witt, Elliott, & Darveaux, 1985) and are easy to understand (Finn & Sladeczek, 2001). They may be more likely to use such interventions in the future and recommend their use to other teachers. Also, teachers need to learn new skills for their particular classrooms through and in practice (Ball & Cohen, 1999). These are reasons the current, contextualized intervention was designed and its effects on a related classroom management approach examined.

High Schools and Special Education

Special education teachers and their resource classes may be a population that would benefit from implementation of systematic prompting and SP because the student populations with high-incidence disabilities in these classes often display behavior difficulties that benefit from explicit teaching of desired behavior with explanations, clarification, and positive reinforcement (e.g., Sutherland, 2000). In addition, all of the precedents in the SP literature for implementing interventions to increase high school teacher SP rates were conducted in special education classes.

Purpose

The primary purpose of the current study was to determine if there is a functional relation between high school special education teachers’ use of a behavior prompting routine for class-wide behavior expectations at the beginning of a lesson and their use of SP statements during the lesson. Social validity of use of behavior prompting and SP was measured for both teachers and students. The research questions were:
1. Is there a functional relation between teacher prompting for class-wide behavior expectations at the beginning of each observed lesson and rate of SP statements?

2. What is the social validity of teacher prompting for class-wide behavior expectations and SP from the perspectives of teachers and students?

**Methods**

**Setting and Participants**

The study was conducted in a high-achieving suburban public high school in the southeastern part of the United States. With an enrollment of just under 2,700 students, this school has a large percentage of SAT test takers and high numbers of Advanced Placement subject tests administered. At the time of the study, the school had been a neighborhood charter school for over 15 years and experienced high levels of parent and community involvement. The school followed a traditional bell schedule of 6 academic periods of 50-55 minutes each per day. In this school, special education services were provided in resource and co-taught classes for students with mild to moderate disabilities. All grade levels of diploma credit-bearing English and math were provided in resource settings.

**Teachers.** Three teachers of resource special education classes participated in the study. All teachers are identified using pseudonyms. “Peter” taught a 9th grade algebra class. “Julianne” taught an 11th grade advanced algebra class. “Emily” taught a 10th grade English class. Additional information about the teachers’ demographics, teaching experience, and certification are provided in Table 3.

**Students.** All students from the recruited teachers’ selected classes were invited to participate in the study, and 8 provided both parent consent and student assent. To meet inclusion criteria, these students: (a) were pursuing a regular diploma, (b) had fewer than ten absences in
the current school year, and (c) were enrolled in the class at the beginning of baseline for the study. Demographic information about the students is provided in Table 4.

Dependent Variables

**Teacher praise.** A praise statement was defined as any verbal statement of approval to a student or group of students. Each praise statement was transcribed for analysis using the observation data collection sheet in Appendix B, then coded as being either specific or general. After the observation, each transcribed statement was reviewed to confirm that it contained approval (beyond accuracy feedback) and could be counted as praise. Praise statements were further coded as SP if they contained a verbally-delivered description of the student behavior being praised or if they paired a verbal statement or gesture of approval (such as a thumbs-up signal or high-five exchange) with a specifying gesture (such as pointing to a specific portion of the student’s work) in such a way that it was evident which student behavior or work product was being referred to (see Capizzi et al., 2010, p. 196). Rates of SP are reported as number of SP per 30 minutes. The rate of SP was calculated by dividing the number of specific praise statements by the number of minutes of observation, then multiplying by 30.

**Social validity.** To measure teacher perceptions of the behavior prompting routine and use of SP, an adapted version of the Intervention Rating Profile for Teachers (IRP-15; Lane, 1999; Witt & Elliott, 1985) was administered. On the IRP-15, teachers are asked to indicate their level of agreement with 15 statements about an intervention using a 6-point Likert-type response system. A sample item is: “I would suggest the use of this intervention to other teachers” (Martens et al., 1985, p. 193). A higher overall mean score indicates higher levels of acceptability. The IRP-15 has a Cronbach’s alpha of .98 without adaptations (Martens et al., 1985). This measure was adapted in three ways for this study. First, the questions were reduced
in number so that they could be asked twice – once about the behavior prompting routine and once about SP – while still keeping the number of questions at 15. Second, questions were reworded to make clear which teacher behavior each one referred to. Finally, in the directions section of the survey, brief definitions of the behavior prompting routine and SP were provided to ensure clarity for the questions that followed (Appendix K). Four items (3, 10, 13, and 14) were reverse scored using the following formula:

\[ \text{reverse scored answer} = 6 - \text{original answer}. \]

It was also important to determine high school student participant perceptions of teacher praise and the behavior prompting routine, so an adapted version of the *Children's Intervention Rating Profile* (CIRP; T.L. Eckert, personal communication, November 17, 2014; Lane, 1999; Witt & Elliott, 1985) was administered. On the CIRP, students indicate their agreement with 7 statements about an intervention using a 6-point Likert-type scale. A sample item is: “The method used by this teacher would be a good one to use with other children” (Elliott, 1986, p. 238). The CIRP has a coefficient alpha of .89 when used without adaptations (Elliott, 1986). This measure was adapted in four ways for use in the current study. First, the questions were repeated separately for behavior prompting and SP, and two additional questions about teacher praise were added, for a total of 16 questions. Second, the questions were broken into two sections – one for the behavior prompting routine and one for SP – with a short explanatory statement for each section. Third, the questions were edited for simplicity of syntax and vocabulary to support student reading and comprehension difficulties. For example, the phrase “rules and reminders” was used to refer to the “behavior prompting routine for classroom expectations”. Finally, a “male teacher” version and a “female teacher” version were created to simplify pronoun use in the student surveys.
Professional Training

Professional training was designed for all three teachers for developing their classroom expectations and practicing delivering the prompting routine to fidelity. Training teachers to deliver SP was not intended to be part of the training. However, because of unexpected results in the first tier of intervention, adjustments were made to add SP training through a booster session. Then the contents of this booster session was added to the professional training session for the other two tiers to ensure that equivalent training of content was delivered systematically to teachers in all three tiers (Horner, Carr, & Halle, 2005). Therefore, this section is presented by tier to highlight the content that remained the same across tiers along with the changes to content delivery that were made after the first tier.

First tier. The professional training agenda for the development and delivery of daily class-wide behavior prompting was based on the guidelines outlined by Kostewicz et al. (2008). Peter was the first teacher to receive the training and start intervention. In his training session, he was guided by the researcher at the whiteboard to (1) name and describe teaching and management routines in his class, (2) identify student problem behaviors that were minor but frequent, were major but rare, or interfered with classroom routines, (3) restate the problem behaviors as positively stated behaviors, and (4) if necessary, reduce these to 3-5 positively-worded and behaviorally-stated expectations. The researcher then asked Peter to prepare a brief explanation for why compliance with the expectations during the lesson would benefit students academically and socially, and he practiced delivering the behavior prompting routine until he did so with 100% fidelity for three trials. In the interest of time, because Peter had requested that the sessions be held in approximately an hour’s time during lunch, the researcher supplied a poster with the list of developed expectations to be displayed in the classroom prior to the next
observation session. In addition, he was supplied with an index-sized cue card that was hung on the wall near the poster to support fidelity in his delivery of the prompting routine. He was told to use the cue card on his own as needed. A list of the steps included on the cue card is included at the end of Appendix J.

Following this training, Peter was asked to begin implementing the behavior prompting routine at the beginning of his lesson delivery each day, and he did so. However, adjustments were needed for the planned intervention design because of an unanticipated increase in his verbal correction levels, rather than praise, after training. The study was originally designed to withhold the nature of the dependent variable, which was SP, from the participants until after the conclusion of the study. The intended purpose of this concealment was to increase the likelihood that teacher behavior would be natural in response to training for the behavior prompting routine. However, anecdotal observations by the research staff noted a marked and unintended increase in corrective verbal statements by Peter during the observation sessions immediately following his training for the behavior prompting routine. Peter was asked by research staff what he thought the researchers were measuring; without knowing that rates of praise were being measured, Peter had inferred that the desired behavior was increased student compliance with the newly-introduced class-wide behavior expectations. Research staff determined that this represented hypothesis guessing, which is when participants infer the purpose of a study and then attempt to deliver behavior conforming with their beliefs about the desired outcomes. This is a threat to construct validity (Cook & Campbell, 1979). In this case, Peter was attempting to increase student compliance to the expectations through increased correction. After consultation with external single-case design methodologists, the researcher designed and implemented a 10-15 minute booster training session with Peter that revealed SP as the outcome measure, explained
the value and components of SP, and modeled and practiced examples of SP (see Appendix J for the handouts used during the booster session). There was no fidelity checklist or IOA conducted for the booster session. Peter then entered a second phase of intervention observation sessions by continuing to implement the behavior prompting routine daily. Observers noted an immediate improvement in class-wide rapport following the booster session, and Peter continued through the rest of the intervention phase after that time.

Second and third tiers. Julianne and Emily participated in professional training sessions that followed the same agenda as Peter, except that the booster training session content for SP was integrated into the initial training session. This meant that they participated in one intervention training session that was equivalent to that of Peter’s intervention training + booster sessions. Even though their training sessions were not conducted on similar timetables as Peter, which would be desirable from a replication standpoint (Horner et al., 2005), the negative consequences of Peter’s hypothesis guessing (Cook & Campbell, 1979) in classroom interactions was deemed too much of a risk to move forward with concealment of SP for Julianne and Emily, so the reorganization of equivalent content was regarded as necessary for the second and third tiers.

Fidelity

Fidelity of teacher professional training sessions. The training sessions for teachers were conducted by the researcher using the agenda included in Appendices B and C and monitored for fidelity of delivery by an observer using the checklist in Appendix E. This checklist allowed for an observer to determine the researcher’s adherence to the session content as outlined in the agenda as well as to evaluate selected process quality standards, as described in Linder and Kline (2007). Each element was scored on a scale of 0-2 and the total was divided by
the number of possible points to arrive at a percentage of adherence. The training fidelity measure.

**Treatment fidelity.** A fidelity checklist (Appendix F) was used to calculate the teachers’ fidelity to the behavior prompting routine elements during each observed session after receiving training. Each element was scored as present or not present, and the number of elements present was divided by the number of required elements (10) to arrive at a percentage of treatment fidelity. If teachers’ implementation of the routine dropped to 80% or fewer of the steps (e.g., omits two or more elements in the fidelity checklist) for two sessions in a row, a 5-10 minute booster session was implemented at a time convenient to the teacher prior to the next observation session.

**Interobserver Agreement**

**Observation record agreement.** Interobserver agreement (IOA) with a second observer was conducted across 40% of all observation sessions. The study research assistant was trained in observation and data recording methods by reviewing operational definitions of variables and procedures for data collection. Then, public-domain classroom videos from the internet were used to conduct practice observation sessions until the researcher and study research assistant reached greater than 90% agreement during training. Four elements were scored for observation agreement: (a) whether both observers recorded the same teacher statement, (b) whether both agreed that the statement was delivered publicly or privately, (c) whether both agreed that the approval was directed to the whole class, a small group, or an individual student, and (d) if directed at an individual, whether both agreed that the student’s name was used. Observation agreement was calculated by dividing the total number of agreements by total number of possible agreements (number of statements times 4).
Praise type coding agreement. After completion of each day’s session, all statements recorded on the data sheet were coded as exhibiting approval (or not) and as being specific (or not) by the original observer after completion of the session. Statements meeting both criteria were thus identified as SP. For example, approval statement often included words or phrases like, “I’m glad,” “I really like,” “Thank you,” “Good,” or “Nice.” Sometimes approval was conveyed not with words but with a big smile, a pat on the shoulder while making an observation or looking at student work, or a noticeable rise in intonation. Examples of behavior specificity within statements included such phrases as, “I see your materials on your desk,” “[Thank you for] answering,” “This right here [pointing to student’s work],” or “You started with the ones you knew first.”

For sessions conducted with IOA, SP category coding by each observer was compared immediately afterward, and the two observers discussed disagreements until discrepancies were resolved. For sessions without a second observer, the research assistant examine all transcripts at the conclusion of the study and either confirmed or disagreed with the coding for approval and behavior specificity. The researcher and assistant discussed disagreements until discrepancies were resolved. In cases of unresolved discrepancies, a third party research assistant examined the transcripts and resolved the coding.

Treatment fidelity agreement. The total number of elements scored in agreement by both observers was divided by the total possible number of elements and multiplied by 100 to give a percentage of agreement.

Design

A multiple baseline/multiple probe design across teachers was used to explore the functional relation between the prompting routine and SP (Gast & Ledford, 2010). This design,
featuring staggered baselines, was chosen because it does not require a withdrawal of the intervention to show experimental control and allows for periodic probes instead of daily probes for teachers who remain in baseline while others are in intervention phase. Rates of SP were graphed for each session and used as the variable by which phase change decisions were made. Initial probes were conducted across all class sections. The baseline data for SP were evaluated, and professional training was held for the teacher with the most stable baseline, who then moved into intervention. Observation probes were conducted intermittently in the other class sections while the first teacher was in intervention. When a change in level for SP was detected, 3-5 baseline demonstration observations were conducted in the next teacher’s classroom before entering intervention. The process was repeated through the third tier.

**Data analysis.** Visual analysis was used to interpret the level stability, variability, and immediacy of effect for the dependent variable within and across conditions (Gast & Spriggs, 2010; Horner et al., 2005). A team of outside experts, blind to the purpose of study, was consulted to conduct visual analysis (Ferron & Jones, 2006). To accomplish this, the graphed data results only (Figure 1), with the variable and teacher names removed, were provided to outside experts at several points during the study to confirm whether phase changes should be undertaken to introduce the next teacher to intervention and whether a functional relation existed at the conclusion of the study.

**Procedures**

Observations were conducted for 30 minutes starting when teachers began the lesson. The timer was started immediately after the first teacher attempt to gain whole class attention, as long as the teacher began the instruction within 3 minutes after the attempt. During intervention, the timer was started immediately after teachers finished delivering the prompting routine.
Baseline. Teachers were observed during instruction for a minimum of five sessions to establish baseline. Teachers were asked to teach lessons as they typically would. Teacher use of SP was measured as the dependent variable during this phase, but they were not informed that SP was the measure of interest during baseline.

Full intervention. The researcher then asked teachers to begin each subsequent observed lesson by verbally and visually reminding the class of the behavior expectations using the routine and then teaching the lesson as they typically would for the rest of the class period. The prompting routine consisted of (a) keeping a poster with expectations posted during the entire lesson in a location visible to all students, (b) signaling for whole-class attention, (c) drawing students’ attention to and reading the expectations from the poster, (d) presenting a short explanation of the benefits of following the expectations that contained examples and non-examples of compliance, and (e) briefly checking for understanding for at least one student. Teacher use of all praise was transcribed and coded as either general or specific. SP was measured as the dependent variable in each observation session during this phase, as shown in the observation data collection sheet in Appendix B.

Maintenance. One maintenance probe was conducted in Peter’s class approximately two weeks following the end of the study. One maintenance probe was conducted in Emily’s class two days following the end of the study. In these observation sessions, research staff measured behavior prompting routine fidelity and teachers’ use of SP without providing any reminders to the teachers. It was not possible to conduct a maintenance probe in Julianne’s class due to individualized independent student work being provided in place of teacher-directed instruction in preparation for final exams.
**Results**

**Specific Praise**

Results for Peter are as follows. Peter averaged a mean SP rate of 0 per 30 minutes during the baseline phase, 0.75 per 30 minutes (range, 0-2) during the first intervention phase, and 2.60 per 30 minutes (range, 2-4) after the booster session that initiated his second intervention phase. There was an increase in rate of 0.75 and 1.85 in intervention phases one and two, respectively. His SP rate during the maintenance probe was 4 in 30 minutes.

Visual analysis for the first tier did not reveal a functional relation between the intervention and SP. Peter’s data were stable within each of the three conditions; however, there was minimal change and no immediacy of effect from baseline to intervention one. There was strong immediacy of effect from intervention one to intervention two. Percentage of nonoverlapping data points between each of the phase changes was 50%.

Results for Julianne are as follows. Julianne averaged a mean SP rate of 2.17 per 30 minutes (range, 0-5) during the baseline phase and 4.60 per 30 minutes (range, 2-6) during the single intervention phase that integrated the elements of Peter’s first and second intervention phase into one. There was an increase in rate of 2.43 in intervention. A maintenance probe was not conducted for Julianne because teacher-directed instruction was not delivered on the scheduled maintenance probe days immediately before the end of the semester.

Visual analysis of data for the second tier did not reveal a functional relation. Julianne’s data were highly variable in baseline. The first four data points in intervention were stable, but the final point falls greater than 50% below the mean for the phase. There was strong immediacy of effect from baseline to intervention. The percentage of nonoverlapping data points between phases was 40%.
Results for Emily are as follows. Emily averaged a mean SP rate of 1.20 per 30 minutes (range, 0-4) during the baseline phase and 3.42 per 30 minutes (range, 0-4) during the integrated intervention phase. There was an increase in rate of 2.22 in intervention. Her SP during the maintenance probe was 7 in 30 minutes.

Visual analysis of data for the third tier did not reveal a functional relation. Data were highly variable within both phases and there was no immediacy of effect from baseline to intervention. The percentage of nonoverlapping data points between baseline and intervention was 0%.

**Social Validity**

Teacher perceptions of the behavior prompting routine and use of SP were measured following the intervention using the adapted IRP-15. The composite results showed the three intervention teachers agreed with the statements presented in the survey with a total of 220.5 out of 270 possible points for 82% overall agreement (range, 81% to 83%). The three teachers’ level of agreement for statements about the behavior prompting routine was 100 out of 144 possible points for 69% agreement (range, 65% to 73%). The level of agreement for statements about SP was 88.5 out of 108 possible points for 82% agreement (range, 79% to 86%). All three agreed or strongly agreed with a number of the statements, which are listed in Table 4 and summarized as follows. All teachers indicated the use of the behavior prompting routine and SP are likely to be well regarded by administration. They also indicated that their students’ classroom behavior is severe enough to warrant use of the routine and that the benefits of using the routine are worth the time invested. Overall, they expressed the belief that using SP is not likely to have negative side effects for students. Finally, they all strongly agreed that using positive behavior support is beneficial for both students and teachers.
Student perceptions of the behavior prompting routine and SP were also collected, using the adapted CIRP. Ten surveys were completed by 8 students, two of whom were enrolled in participating math and English classes. These two students were asked to complete the survey twice, once for each class. The researcher asked them to “think about [teacher’s name] when you’re completing this one” for each. When asked if they thought they could do this separately for each teacher, both students said they thought they could successfully complete the survey with the two different teachers in mind. The composite results from the 10 surveys showed the students agreed with a total of 721 out of 960 possible points for 75% overall agreement with the survey statements. The students’ level of agreement for statements about the behavior prompting routine was 313 out of 420 possible points for 75% agreement, and for SP was 408 out of 540 possible points for 76% agreement. Ranges are not provided because student surveys were not analyzed individually. The students did not “agree or strongly agree” with any of the statements. However, they did “mildly agree, agree, or strongly agree” with three statements, which are listed in Table 5 and summarized as follows. All students at least mildly agreed that the class wide expectations used in the behavior prompting routine were not too tough and could help other teenagers, too. In addition, all students at least mildly agreed that they like it when their teacher praises them.

**Fidelity**

**Fidelity of teacher professional learning.** The three teacher professional learning sessions were implemented by the researcher with high levels of fidelity to the session agenda (see Appendix C). Session fidelity was 100% for all three sessions. Instead of creating the posters during training, the researcher provided the poster to the teachers prior to the next observation session. The booster session conducted with Peter revealing SP as the dependent
variable and providing modeling and practice was not evaluated for fidelity. While the material was presented to Julianne and Emily during their professional training sessions, it was also not added to the training session fidelity measure.

**Treatment fidelity.** Teacher participants implemented the behavior prompting routine with varying levels of fidelity during the intervention phase of the study. Peter’s mean percentage of treatment fidelity was 98% (range, 90%-100%). Julianne’s mean percentage of treatment fidelity was 93% (range, 80%-100%). Emily’s mean percentage of treatment fidelity was 86% (range, 80% to 100%). Emily delivered the prompting routine with 80% fidelity for her last four sessions. She received a booster session to remind her to read the expectations verbatim and to check for understanding after the second 80% session, but still delivered 80% of the steps in the next session. Her maintenance observation was conducted without a booster session, and she again delivered 80% of the routine elements in the session. Emily omitted delivering the check for understanding step in 6 of her 8 intervention sessions, corresponding to all days in which she achieved less than 100% fidelity. She paraphrased the expectations instead of reading them verbatim for 3 sessions.

**Interobserver Agreement**

**Observation record agreement.** A total of 105 teacher statements were transcribed by observers during the study. IOA was calculated for 100% of the statements, resulting in agreement on 315 out of 327 possible elements, or 96%.

**Praise type coding agreement.** The researcher and research assistant agreed on both approval and specificity categorization for 96 of the 105 transcribed statements, for an overall agreement rate of 91%. For categorization of whether the statements contained approval or not,
agreement was 99%. For categorization of whether the statements specified the behavior being praised or not, agreement was 92%.

**Treatment fidelity agreements.** IOA was calculated on treatment fidelity for 29% of intervention sessions. The two observers agreed at a level of 100%.

**Discussion**

This study explored the effect of teachers implementing a class-wide behavior prompting routine on their delivery of SP during the ensuing lesson. We believed that increasing the clarity of classroom expectations and increasing rates of teacher approval could contribute to positive reciprocal interactions that might support students with high-incidence behavior and learning difficulties (Patterson & Reid, 1970; Shores, Jack, et al., 1993), and SP was measured as a proxy for teachers initiating this cycle with students. The goal was to determine whether a teacher-maintained behavior (implementing the daily prompting routine) would help support and sustain increases in SP rates instead of requiring external researcher feedback and support as previously demonstrated in high school studies of SP. The results of this study yielded no evidence of a functional relation for any of the participants, but a number of interesting discussion points emerge when examining the data and anecdotal records.

**Prompting and Praise**

While no functional relation was demonstrated in this study, small increases in mean SP rates were found. Converting the SP values to rate per minute, gains for teachers ranged from .06 to .09 SP per minute for the three teachers. Compared to existing studies of increasing SP in high schools, these gains were small. Other studies resulted in larger overall rate gains such as .23 and .44 per minute (Hawkins & Heflin, 2011) or .25 and .63 per minute (Duchaine et al., 2011). Peter showed the most stability in baseline and the greatest mean growth after receiving the full
intervention training. Emily showed the least growth. However, maintenance data points for both of them met or exceeded their highest number of praise statements during intervention. These levels at the time of the maintenance probes may indicate that teachers require extended independent practice with the prompting routine to develop automaticity and see its full benefits.

**Changes in Classroom Discourse.** Despite Peter’s daily rate of 0 SP during baseline, his math class was a welcoming, pleasant environment with highly positive teacher-student interactions. The positive interactions were simply not occurring in the form of praise, which was what this study was measuring. Rather, the research staff noted during baseline that there was frequent use of smiles, individual attention with positive accuracy feedback, and mild, light humor between Peter and his students. However, Peter immediately increased corrective interactions with students after receiving training in the behavior prompting routine. This was regarded as doing more harm than good, especially considering the previous positive interactions noted during Peter’s baseline. Introducing a booster session to tell him that SP was the dependent variable and to model SP delivery immediately rectified the construct validity problem, as Peter expressed relief to the researcher and reduced his corrective interactions with students while increasing SP use.

In hindsight, it is easy to imagine this happening because we did not explicitly tell Peter’s the training session’s ultimate intended outcome, and he therefore assumed that the intervention’s purpose was to increase student rule compliance. Peter’s belief about the intervention’s purpose dramatically affected the class environment even though Peter implemented the trained intervention with high levels of fidelity. Lack of clarity such as this can result in compromised effectiveness and intervention acceptability (Finn & Sladeczek, 2001). Adding the SP training as a mid-intervention booster session rather than in the initial training
likely altered the potential immediacy of the intervention’s effect. In addition, the booster SP training was not monitored for fidelity or structured with the level of advance preparation that the training for behavior prompting had been designed with, so its quality could not be ensured. If the research question had been designed with training for SP in mind from the beginning, it is possible the sessions may have resulted in greater gains in SP for the participants.

In addition, Peter’s positive baseline classroom environment in the complete absence of SP suggests that a number of unmeasured factors were likely contributing to his positive reciprocal interactions with students. Demographic influences may include his gender, the gender of his students, and their overall young age (it was a 9th grade class). Communication elements may have included nonverbal communication, tone, inflection, and use of humor, which were not measured in this study. Discourse analysis might reveal that SP rate was not a sufficient measure, by itself, of the communication required to foster positive reciprocal interactions. However, to carry out such observation research in content area high school classrooms may require researchers to adapt existing measures of teacher-child interactions, which are primarily focused on young children (Bloom, Rocissano, & Hood, 1976; Dore, 1974).

**Prompting Routine Delivery.** Another interesting observation was that Emily provided SP during her prompting routine, not just after its delivery, on 5 of 8 sessions. These SP were directly related to her list of expectations, but they occurred before the 30 minute observation sessions and were not counted toward her SP rates in the study. However, her mean SP rates for the 5 days would have been 4.86 with a maintenance score of 8 if the SP delivered during the routine were included in the daily total. This would have resulted in 100% nonoverlapping points from the baseline for the 5 days. The fact that she provided SP spontaneously during the prompting routine without having been asked to do so in her training is of interest. It suggests
that she used the prompting routine as a prompt for herself – almost as a scheduled opportunity to stop and praise her students before becoming engrossed in teaching the lesson. One day during the prompting routine, she read the item verbatim, “Be here on time and sitting at your desk ready to go,” and commented immediately afterward, “Thank you so, so, so much [list of names]. I see you with your things on your desk.” It was a spontaneous SP statement that was authentic, genuine, and closely tied to the expectations. Like in Peter’s class, this was a discourse opportunity that fell outside the measured variable in this study, but may be important to examine further. For the sake of this study, we assumed that SP delivered later in the class period would serve as a proxy for teachers’ positive reciprocal interaction, but Emily’s use of SP early in the class period, intertwined with the prompting routine, may illustrate the value of teachers systematically interacting positively with students at the very start of class.

In addition, Emily deviated from the 10-point treatment fidelity checklist for 6 of her 8 intervention sessions. She paraphrased, added SP, or provided extra examples during these sessions. This suggests that she used the list of expectations as a guide and personalized the routine based on the demands and schedule for the day. However, this may have made the routine too long for her to feel that carrying out the final “check for understanding” was reasonable, given that she omitted it for all of the observations in which fidelity was below 100%. Another possible explanation of her omission of the final check for understanding is based on an event that occurred on her first day of implementing the prompting routine. Emily checked for understanding for the expectation, “Phones should be kept in a bag or pocket,” by asking one student publicly, “[Student], where should phones be kept?” The student was visibly nervous, and asked after a long, awkward moment, “Are you calling me out?” Emily responded that since he appeared to be listening closely, she thought she would see if he knew the answer to
a question. He eventually responded after Emily directed his attention back to the poster. However, after the class period, Emily reported that the uncomfortable exchange had taken her by surprise; it is possible that she avoided future awkwardness and discomfort by avoiding the check for understanding step in most sessions. This could have been avoided if the training session had included a discussion of how to implement the check for understanding step in natural ways that fit with the existing classroom culture and reduce social stigma among peers.

Social Validity

Results of teacher social validity measures were consistent with those of previous research on interventions to increase SP in high school classrooms (Duchaine et al., 2011; Kalis et al., 2007), in that teachers generally rated the prompting routine and SP as acceptable. Additionally, the three intervention teachers agreed that they encounter behavior problems severe enough to warrant the routine. This is aligned with the findings of Martens et al. (1985), who reported that teachers tend to value interventions more when they are “applied to behavior problems of greater severity” (p. 197).

Where this study differed from previous research is that student measures of social validity were collected. Two notable areas of agreement by the students for the prompting routine were that they thought their teacher’s rules were not too tough and they thought the reminders of rules would help other teenagers. In other words, both the expectations themselves and the prompting routine were acceptable. Also notable is that all the students agreed that they like receiving praise from their teachers. While the sample was very small and results should be viewed with caution, the paucity of research into the effectiveness of positive classroom management techniques for high school is somewhat mystifying, given that these high school
students, with behavior and learning problems, indicated they find prompting and praise acceptable.

Beyond participant ratings of acceptability, another indicator of an intervention’s external validity may be participants’ spontaneous use of it outside of the trained setting or conditions (Cook & Campbell, 1979). While no evidence suggested that the teachers implemented the behavior prompting routine outside of the participating class sections, observers noted that some students spontaneously began initiating the language of the behavior prompting routines in conversation with their teachers. For example, in Peter’s class, when the class had to relocate due to school testing for other subjects, the relocation room had fewer resources than Peter was accustomed to (e.g., no SmartBoard, no working dry-erase markers, and furniture blocking the white board). Peter was visibly frustrated and repeatedly apologized to his students for being disorganized. One of the students in the class called out to him, “That’s ok, Mr. Peter, you’re staying awake and trying your best!” which echoed Peter’s first expectation: “Stay awake and try your best all the time.” Also on that day, the paraprofessional had brought Peter’s expectations poster to the relocation room, and several students noticed it, with one saying, “Wow, Mr. Peter, you brought that thing with you today?!” On another day in Julianne’s class, after the completion of the observation session, the class was assigned to work independently while Julianne worked one-on-one with other students. During this time, she looked up and asked a pair of students to stop talking, and one of them earnestly responded, “But Ms. Julianne, we’re talking math,” which echoed the expectation, “If we’re talking, we’re talking math.” Regardless of the lack of its measured effectiveness on SP rates, students definitely noticed the prompting routine and began to generalize its content in each class.
Limitations of the Current Study and Future Directions

Limitations

Because it was near the end of the school year and state testing was imminent, the school switched to from a traditional bell schedule of each class meeting daily for 50-55 minutes to an A/B modified block schedule for the last 3 weeks of the year. Therefore, only one maintenance probe observation was possible for Peter and Emily’s classes, whereas two had been scheduled. Julianne’s intervention phase was limited to 5 sessions, with one large gap of 6 days, and no maintenance probes. Had the study been conducted earlier in the semester, these complications would have been avoided and the results might have demonstrated the immediate and extended impact of the prompting routine more clearly.

In addition, neither Julianne nor Emily demonstrated stability in baseline before moving into intervention. It is impossible to say what may have been the patterns or causes of Julianne and Emily’s baseline instability because systematic observations of classroom factors such as lesson design or instructional demands were not conducted. However, because both had already received numerous baseline observations, it seemed unreasonable that they would develop stability over time, so they were entered into intervention phase despite the instability.

Finally, recruitment of students for completion of the adapted CIRP social validity survey resulted in sparse participation. Students needed to take the parental consent form home to have it signed if they wanted to be in the study. All of the students who were 18 or more years old, and therefore did not need parent consent, provided their own signed consent immediately after the researcher visited the class and asked for participation. Some consents also came from the 9th grade students, who may still have been accustomed to greater parental oversight for homework and agenda use and therefore delivered the form to their parents to sign. However, because of
such a small student sample size, results of the student social validity measure should be interpreted with caution.

**Future Research**

It is clear from Peter’s case that future research designed to support increases in SP should include direct training in SP at the time of training for the support behavior, not concealing the ultimate purpose of the intervention from the teacher participants. When asked to implement classroom management techniques, teachers may feel obligated to focus on increased student compliance unless they understand that the true intent is to increase positive reciprocal interactions. In addition, revealing the dependent variable during the training session would allow teachers to evaluate their selection of classroom expectations in light of behaviors that can be frequently seen and praised, possibly increasing opportunities to praise.

Peter’s and Emily’s cases also demonstrated that there are other ways and times of teachers talking with students that lead to positive reciprocal interactions beyond providing SP after prompting. While teachers’ overall documented baseline SP rates were low, there were numerous other kinds of teacher-student talk in all three classes that students seemed to find acceptable, such as providing positive accuracy feedback, repeating students’ answers out loud, and providing individual attention. In both math classes, corrective feedback for student accuracy was also frequently delivered and received well by students. Discourse analysis in future studies for this population could provide valuable information about classroom context and the other kinds of verbal and nonverbal interactions that are present between teachers and students, including accuracy feedback – both affirming and corrective. This will allow researchers to refine variables to be measured in future studies designed to increase positive reciprocal interactions.
Researchers should also explore ethical ways to incentivize student participation and make it easier for willing high school students to obtain parent consent. A second effort at student participant recruitment near the end of the study was mildly more successful, illustrating that participation rates benefit from researchers building familiarity and comfort with students. In addition, several students expressed regret because they forgot to get their parents to sign consent, suggesting that the low participation was not due to a lack of interest or willingness on the part of students. The necessity of students taking home and returning a signed consent form from parents may be a barrier to research participation for high school students, especially students with disabilities that tend to affect organization skills but who are otherwise capable of engaging in the decision-making process of assent for participation.

Finally, further examination of student perceptions of prompting and praise should be conducted. While Brophy (1981) questioned whether adolescents value statements of approval by adults because of their developmental and social stage, results from this study and anecdotal responses of students suggests that struggling high school students may, in fact, be quite open to teachers initiating positive reciprocal interactions through classroom management methods such as prompting and praise. Future survey research about student preferences should recruit participants across general education and special education settings to test this hypothesis, with enough statistical power to analyze differences by gender, disability status, and age, as well as to carry out cluster analysis to determine if any distinct student profiles emerge.

Conclusion

In sum, while a functional relation was not demonstrated between the behavior prompting routine and SP for any participants, additional systematic research may be warranted to determine the effects of the behavior prompting routine on positive reciprocal interactions in
classrooms with students with high-incidence disabilities as well as what levels of intervention intensity and duration are sufficient to result in increased teacher SP rates. Social validity survey responses from teachers and students suggest that both groups found the behavior prompting routine acceptable and would welcome increases in teacher SP, suggesting that such further research would be beneficial and well-received by high school participants.
References


**Harlacher, J. E. (2009). *Social and emotional learning as a universal level of support: Evaluating the follow-up effect of Strong Kids on social and emotional outcomes.* University of Oregon.**


### Table 3

**Teacher Demographic Information**

<table>
<thead>
<tr>
<th></th>
<th>Peter</th>
<th>Julianne</th>
<th>Emily</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Male</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td>Caucasian/ non Hispanic</td>
<td>Caucasian/ non Hispanic</td>
<td>Caucasian/ non Hispanic</td>
</tr>
<tr>
<td><strong>Highest Degree</strong></td>
<td>B.A., Math Education</td>
<td>Specialist, Curriculum &amp; Instruction</td>
<td>M.Ed., Learning Disabilities</td>
</tr>
<tr>
<td><strong>Number of Years of Teaching (Teaching Area)</strong></td>
<td>2 (1 general education math, 1 special education)</td>
<td>33 (Special Education)</td>
<td>27 (Special Education)</td>
</tr>
<tr>
<td><strong>Years Teaching High School</strong></td>
<td>2</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td><strong>Area of Certification</strong></td>
<td>General Education Secondary Math; P-12 Sp. Ed.</td>
<td>P-12 Sp. Ed.</td>
<td>General Education Secondary English; P-12 Sp. Ed. &amp; Adapted Curriculum</td>
</tr>
<tr>
<td><strong>Years at the Current School</strong></td>
<td>1</td>
<td>12</td>
<td>7</td>
</tr>
</tbody>
</table>

P-12 Sp.Ed. = Grades Preschool-12 Special Education General Curriculum Consultative
Table 4

*Student Participant Demographic Information (Number of students = 8)*

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>Gender</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age (Standard Deviation)</td>
<td>Female</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>16.77 years (11.55 months)</td>
<td>Male</td>
<td>7 (87.5%)</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>2 (25%)</td>
</tr>
<tr>
<td>16</td>
<td>Race/Ethnicity (student self-report)</td>
<td>3 (37.5%)</td>
</tr>
<tr>
<td>17</td>
<td>Caucasian/non-Hispanic</td>
<td>3 (37.5%)</td>
</tr>
<tr>
<td>18</td>
<td>Hispanic</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Grade Levels</td>
<td>White &amp; Hispanic</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>9th</td>
<td>African American</td>
<td>1 (12.5%)</td>
</tr>
<tr>
<td>11th</td>
<td>Other (unspecified)</td>
<td>1 (12.5%)</td>
</tr>
</tbody>
</table>

Student Disability Eligibility Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Disabilities</td>
<td>5 (62.5%)</td>
</tr>
<tr>
<td>Other Health Impaired (for attention difficulties)</td>
<td>3 (37.5%)</td>
</tr>
</tbody>
</table>
Table 5

*Teacher Social Validity Measure Items With Agreement or Strong Agreement*

<table>
<thead>
<tr>
<th>Item</th>
<th>Agree or Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td><em>I encounter student problems severe enough to warrant using the behavior prompting routine at the beginning of each lesson.</em></td>
</tr>
<tr>
<td>4</td>
<td><em>In terms of potential benefits, the amount of time required to use the behavior prompting routine at the beginning of each lesson would be well worth the investment.</em></td>
</tr>
<tr>
<td>5</td>
<td><em>My administrator/supervisor would likely support me receiving professional development for learning to use the behavior prompting routine.</em></td>
</tr>
<tr>
<td>9</td>
<td><em>My administrator/supervisor would consider training in the use of specific praise to be a valuable service for me.</em></td>
</tr>
<tr>
<td>10</td>
<td><em>(Item #10 is reverse scored – the interpretation is added in brackets)</em>&lt;br&gt;<em>Teacher use of specific praise would [not] likely result in negative side effects for students in my grade level.</em></td>
</tr>
<tr>
<td>11</td>
<td><em>My administrator/supervisor would be supportive of me utilizing specific praise as described.</em></td>
</tr>
<tr>
<td>15</td>
<td><em>Overall, I believe the use of positive behavior supports would likely be beneficial to the student and teacher.</em></td>
</tr>
</tbody>
</table>
Table 6  

*Student Social Validity Measure Items With Mild to Strong Agreement*

<table>
<thead>
<tr>
<th>Item</th>
<th>Mildly Agree, Agree, or Strongly Agree</th>
</tr>
</thead>
</table>
| 2    | (Item #2 is reverse scored – the interpretation is added in brackets)  
*I think my teacher’s rules were [not] too tough on me.* |
| 5    | *The reminders could help other teenagers, too.* |
| 13   | *I like it when my teacher praises me.* |
Figure 1.

*Graphs of Results*
APPENDICES

**Appendix A** Lists of behavior expectations and/or behavior prompting from literature review

**Appendix B** Observation Data Collection Sheet

**Appendix C** Session agenda for class-wide behavior prompting routine professional training session

**Appendix D** Professional training handout

**Appendix E** Fidelity checklist for professional training session

**Appendix F** Fidelity checklist for class wide behavior prompting routine

**Appendix G** Parent permission form

**Appendix H** Teacher consent form

**Appendix I** Student assent form

**Appendix J** Teacher Debriefing Script and Addendum to Training Materials

**Appendix K** Teacher Social Validity Questionnaire

**Appendix L** Student Social Validity Questionnaire
Appendix A

Lists of behavior expectations and/or behavior prompting from the studies of behavior prompting as an independent variable (not reported in Wright & McCurdy, 2012). All lists are provided word-for-word where possible. At the conclusion, the lists of behavior expectations for the teachers in the current study are provided.

From the Literature Review (Chapter 1)

(De Pry & Sugai, 2002, p. 257)
School-wide behavior expectations:
1. All students will cooperate in work and play
2. All students will strive for academic excellence
3. All students will respect themselves, others, and the environment
4. All students will demonstrate safe behaviors in classroom and common school areas

(Donaldson, Vollmer, Krous, Downs, & Berard, 2011, p. 607)
Rules of the Good Behavior Game:
1. Sit with legs crossed
2. Speak only when called on or when the teacher indicated that everyone could respond
3. Keep hands and feed to oneself

(Faul, Stepenksy, & Simonsen, 2012, p. 50)
Sample scripts of individualized behavior prompts:
1. Owen: Owen, remember the three keys today, Be Respectful, Be Responsible, and Have Pride. Do your best!
2. Tom: Are you ready for class today? Remember the three keys, Be Respectful, Be Responsible, and Have Pride. Do your best!

(Greenwood, Hops, Delquadri, & Guild, 1974, p. 417)
Teacher-developed classroom expectations for the intervention:
1. Look at the teacher when she talks or is giving directions
2. Follow directions
3. Work quietly on assignments
4. Raise hand when you would like to talk or need help
5. Take turns during discussion
6. When your work is completed you may
   a. Read a book
   b. Do a puzzle
   c. Take a turn at the projector
   d. Do activities teacher provides

(Harlacher, 2009, p. 117)
Training examples and non-example of pre-correction:
1. Example: Before we take this quiz, let’s remember to let go of stress. Remember to take deep breaths and think of a relaxing place while I pass out the quiz.
2. Example: It’s almost recess time. I want you all to think about how you feel while you’re playing and be sure to use “OK” instead of “not OK” ways to deal with your emotions, just like we talked about in Strong Kids.

3. Non-example: Before we go to PE, let’s remember to be a strong kid. (not tied to a specific skill, vague)

(LeGray et al., 2013, p. 93)
Alternative behaviors encouraged during pre-teaching:
  Refrain from inappropriate vocalizations (e.g., task-irrelevant vocalizations) while vocalizing appropriately (e.g., responding to a teacher’s question, producing sounds in response to early literacy instructional prompts)

(Lohrmann & Talerico, 2004, p. 115)
Teacher-selected class-wide behavior expectations:
  1. Stay in your seat
  2. Complete assignments
  3. Talk when it is your turn

(McNamara, 1984, p. 122)
Classroom rule examples presented to teachers during training:
  1. When the teacher is talking to us we look at him/her
  2. We get on with our seat work quietly
  3. We try not to stop others from working
  4. We try to pay attention to our work and try not to daydream

(Sprague & Thomas, 1997, pp. 330-331)
Examples of expected behaviors (with opportunities to practice):
  1. Hands to yourself (show me your hands to yourself)
  2. Look at the teacher
  3. Sit up in your chair (show me sitting up in your chair)

Example of precorrection statement:
  It is time to work in a money group, stay in your seat with your hands to yourself.

(Volpe, Young, Piana, & Zaslofsky, 2011, p. 59)
K-PALS rules (and descriptions):
  1. PALS Positions (Sit directly next to PALS partner, stay in chair, keep PALS worksheets on the table between partners)
  2. PALS Talking (Talk in a low voice at all times, talk only about PALS, and talk only to your partner)
  3. Try your best (Try your hardest to be a great “coach” and “reader,” work hard during each activity)
From the Current Study (Chapter 2)

Peter’s class:
1. Stay awake and try your best all the time.
2. Be in class when it starts.
3. If you’re late, pick up handouts quietly.
4. Phones are allowed when we* say you’re done with your work.

*the poster did not specify this, but “we” referred to Peter and the paraprofessional, which Peter explained to the students verbally

Julianne’s class:
• If we’re talking, we’re talking math
• If we’re writing, we’re writing math
• Be ready to respond to teacher questions

Emily’s class:
• Be here on time and sitting at your desk ready to go.
• Look at the to-do list and get needed materials independently
• Keep your head up and pay attention
• Keep phones in a bag or pocket
• When phones are allowed, set a playlist and listen
Appendix B
Observation Data Collection Sheet

Date:___________________     Observer:_____________________     Class ID:    A   B   C   D

Definitions:
Approval –the teacher communicates appreciation, positive value statement, or positive opinion toward a student or students
Beh. Defined – when praise is given, the teacher verbally states or specifically gestures what the behavior was that warrants the praise (e.g. “you put your name on your paper,” or “you raised your hand,” or points to a specific element of student work)
Class – when praise is given, it targets the whole class
Sm. Gp. – when praise is given, it targets a small group of students
Indiv. – when praise is given, it targets an individual student
Name – when praise is given to an individual, the student’s name is stated
Public – when praise is delivered, it is given before the whole class
Private – when praise is delivered, it is given quietly from near the student or the small group so that it is not given before the whole class

Calculating Inter-Observer Agreement (IOA)
Teacher specific praise (compare only the written teacher statements to ensure that the same statements were observed and written)

\[
IOA = \frac{\text{number of agreements}}{\text{number of agreements plus disagreements}} \times 100\% = \underline{\underline{}}\% 
\]

Class-Wide Expectations Prompting Routine Fidelity

____ 1. Expectations are posted during the entire lesson
____ 2. Location of the expectations poster is visible to all students
____ 3. Teacher uses a signal designed to gain whole-class attention before beginning lesson
____ 4. Delivery of expectation reminder occurs immediately before or within 3 minutes of beginning lesson delivery
____ 5. Teacher gestures to, points to, holds up, or posts a digital representation to draw student attention to the written expectations
____ 6. Teacher verbally reads the expectations verbatim
____ 7. Teacher presents 30-60 second explanation of the benefits of compliance for student academic and social achievement
____ 8. Explanation contains at least one example
____ 9. Explanation contains at least one non example
____ 10. Teacher uses at least one opportunity to respond (OTR) technique to check for student understanding

Fidelity calculation: \( \frac{\text{number correct}}{10} \times 100 = \underline{\underline{}}\% \)
<table>
<thead>
<tr>
<th>Write what the teacher says</th>
<th>Check as many as apply</th>
<th>Do Not Use</th>
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Appendix C

SESSION AGENDA FOR CLASS-WIDE BEHAVIOR PROMPTING ROUTINE
PROFESSIONAL TRAINING

Anticipated time:
1 ½ hours

Objectives:
Teacher understanding of the importance and benefits of prompting; teacher development of
expectations and materials; teacher development and practice of class-wide delivery of behavior
prompting until 100% accurate

Elements in *italics* are drawn from:
with emotional and behavioral disorders: A decision-making guide. *Beyond behavior*,
17(3), 14-21.

Materials:
Handouts of background information (Appendix D)
Brainstorming poster paper or whiteboard
Poster making materials
Teacher and/or researcher laptops for script and/or digital slide creation
Prompting routine fidelity checklists for practice and reference (first page of Appendix B)

Agenda:
I. Overview and importance of class-wide behavior prompting
   a. The researcher briefly provides a definition and an overview of the research base for
      using pre-corrective prompts for class wide behavior expectations
   b. The researcher and participants brainstorm potential positive impact for academic and
      social behavior
II. Development of class-wide behavior expectations for a typical lesson format, with
    assistance and feedback from the researcher
   a. Participants list and describe their routines and classroom ecology based on their
      “student-specific knowledge” of their class based on prior and current experiences
      (p. 15)
   b. Participants identify and list student behaviors to be the basis for the class-wide
      expectations, taking into consideration:
      i. “minor aversive behaviors” (p. 15) that may be chronic
      ii. severe but infrequent behaviors
      iii. behaviors that interfere with instructional routines
   c. Participants ensure that each item in the list is positively worded through asking
      “What is the desirable behavior I wish to see?” (p. 15) and making necessary edits
      for positivity
d. Participants ensure that each item in the list is worded with specificity by ensuring that they each describe a behavior and when it should be used, not an abstract concept or idea

e. Participants combine similar or overlapping behaviors, reducing the list to 3-5 expectations

III. Development of visual representation
   a. Participants or the researcher develop posters displaying expectations
   b. Identify the location of the poster to be placed in the classroom
   c. For teachers that use digital presentations, such as PowerPoint or Prezi, to deliver lessons, discuss benefits of an initial slide containing the expectations and develop the slide, if applicable

IV. Development of scripted brief explanation of class-wide expectations to use as a routine for behavior prompting
   a. Develop bullet points for explicit explanation, including examples and nonexamples
   b. Refine to a short, efficient 30-60 second delivery script to reduce time taken from academic instruction
   c. Brainstorm and select at least one OTR technique to check for student understanding

V. Practice delivering the prompting routine until 100% fidelity for three consecutive occurrences
Appendix D

Professional Training Handout:
Class Wide Behavior Expectations

All information adapted from: https://www.pbis.org/school/primary-level

This study is focused on supporting teachers in increasing their use of two classroom management practices associated with Positive Behavior Interventions and Supports. This professional development session will teach you how to create a short list of class wide behavior expectations and practice delivering a prompting routine for students to comply with them that we will ask you to implement at the beginning of each lesson we observe. Two key assumptions of PBIS that we are relying on for the use of the prompting routine are:

We can effectively teach appropriate behavior to all students. All positive behavior interventions and support practices are founded on the assumption and belief that all students can exhibit appropriate behavior. As a result, it is our responsibility to identify the contextual setting events and environmental conditions that enable exhibition of appropriate behavior. We then must determine the means and systems to provide those resources.

Intervene early. It is best practices to intervene before targeted behaviors occur. If we intervene before problematic behaviors escalate, the interventions are much more manageable. Highly effective universal interventions in the early stages of implementation which are informed by time sensitive continuous progress monitoring, enjoy strong empirical support for their effectiveness with at-risk students.

Behavior Expectations

The primary prevention of positive behavior interventions and supports consists of rules, routines, and physical arrangements that are developed and taught by school staff to prevent initial occurrences of behavior the staff would like to target for change. For example, school staff may determine that disrespect for self, others, and property is a set of behaviors they would like to target for change. They may choose the positive reframing of that behavior and make that one of their behavior expectations. Respect Yourself, Others, and Property would be one of their behavior expectations. Research indicates that 3-5 behavior expectations that are positively stated, easy to remember, and significant to the climate are best. After they have been taught to the students, 80% of them should be able to tell the researcher what they are and give examples of what they look like in action. Examples of behavior expectations that meet these criteria:
Appendix E

FIDELITY CHECKLIST FOR PROFESSIONAL TRAINING SESSION
Adapted from Linder and Kline (2007) and the agenda in Appendix C

<table>
<thead>
<tr>
<th>Scoring guide:</th>
<th>0 = not completed</th>
<th>1 = partially completed</th>
<th>2 = completed with quality</th>
<th>N/A = not applicable (unscored element)</th>
</tr>
</thead>
</table>

| Content Standards       |                   |                         |                           |                                          |
|-------------------------|                   |                         |                           |                                          |
| I. Overview and importance of class-wide behavior prompting      |                   |                         |                           |                                          |
| a.                      | The researcher briefly provides a definition and an overview of the research base for using pre-corrective prompts for class-wide behavior expectations | 0 | 1 | 2 |
| b.                      | The researcher and participants brainstorm potential positive impact for academic and social behavior | 0 | 1 | 2 |
| II. Development of class-wide behavior expectations for a typical lesson format, with assistance and feedback from the researcher |                   |                         |                           |                                          |
| a.                      | Participants list and describe their routines and classroom ecology based on their “student-specific knowledge” of their class based on prior and current experiences | 0 | 1 | 2 |
| b.                      | Participants identify and list student behaviors to be the basis for the class-wide expectations, taking into consideration: | 0 | 1 | 2 |
| i.                      | “minor aversive behaviors” that may be chronic |                           |                           |                                          |
| ii.                     | severe but infrequent behaviors |                           |                           |                                          |
| iii.                    | behaviors that interfere with instructional routines |                           |                           |                                          |
| c.                      | Participants ensure that each item in the list is positively worded through asking “What is the desirable behavior I wish to see?” and making necessary edits for positivity | 0 | 1 | 2 |
| d.                      | Participants ensure that each item in the list is worded with specificity by ensuring that they each describe a behavior and when it should be used, not an abstract concept or idea | 0 | 1 | 2 |
| e.                      | Participants combine similar or overlapping behaviors, reducing the list to 3-5 expectations | 0 | 1 | 2 |
| III. Development of visual representation                          |                   |                         |                           |                                          |
| a.                      | Participants or the researcher develop posters | 0 | 1 | 2 |
displaying expectations
b. Identify the location of the poster to be placed in the classroom
c. For teachers that use digital presentations, such as PowerPoint or Prezi, to deliver lessons, discuss benefits of an initial slide containing the expectations and develop the slide, if applicable

<table>
<thead>
<tr>
<th>IV. Development of scripted brief explanation of class-wide expectations to use as a routine for behavior prompting</th>
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<tbody>
<tr>
<td>a. Develop bullet points for explicit explanation, including examples and nonexamples</td>
</tr>
<tr>
<td>b. Refine to a short, efficient 30-60 second delivery script</td>
</tr>
<tr>
<td>c. Brainstorm and select at least one OTR technique to check for student understanding</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>V. Practice delivering the prompting routine until 100% fidelity for three consecutive occurrences</th>
</tr>
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<table>
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<tr>
<th>Process Standards</th>
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<tbody>
<tr>
<td>Provides brief, clear examples and anecdotes that explicitly connect content to classroom</td>
</tr>
<tr>
<td>Provides time for processing and reflection</td>
</tr>
<tr>
<td>Discerns when participants do not understand content</td>
</tr>
<tr>
<td>Organizes materials to be readily accessible</td>
</tr>
<tr>
<td>Transitions from one activity to another without disrupting flow</td>
</tr>
</tbody>
</table>

Fidelity calculation:

\[
\frac{\text{total of circled items}}{\text{total possible}} \times 100 = \text{_______%}
\]
Appendix F

FIDELITY CHECKLIST FOR CLASS-WIDE BEHAVIOR PROMPTING ROUTINE:

Date of Observation:__________  Teacher ID:__________*  Class ID:__________

_____ 1. Expectations are posted during the entire lesson
_____ 2. Location of the expectations poster is visible to all students
_____ 3. Teacher uses a signal designed to gain whole-class attention before beginning lesson
_____ 4. Delivery of expectation reminder occurs immediately before or within 3 minutes before or after beginning lesson delivery
_____ 5. Teacher gestures to, points to, holds up, or posts a digital representation to draw student attention to the written expectations
_____ 6. Teacher verbally reads the expectations verbatim
_____ 7. Teacher presents 30-60 second explanation of the benefits of compliance for student academic and social achievement
_____ 8. Explanation contains at least one example
_____ 9. Explanation contains at least one non example
_____ 10. Teacher uses at least one opportunity to respond (OTR) technique to check for student understanding

Fidelity calculation: (number correct)________  ÷ 10  × 100 = _______%
Appendix G

Georgia State University
Department of Educational Psychology and Special Education
Parental Permission Form

Title: High School Teachers’ Use of Positive Behavior Supports
Principal Investigators: Dr. Nicole Patton-Terry and Dr. Debra McKeown
Student Principal Investigator: Adrienne Stuckey

I. Purpose:
Your child is invited to be in a research study that will happen in ______________’s class. We will invite all students in the class to be a part of the study. The study will last from February 16 to May 15. We will teach the teacher to use a positive class management routine. We want to see how it will affect teacher and student behavior.

II. Procedures:
The research will take place in your child’s classroom. The teacher will teach as usual. We will visit the classroom to observe the teacher. We will show the teacher the things being done well and things that could be done better. The research will not bother classroom teaching. Here is how your child will be a part:

- A researcher will observe the class for less than an hour at a time. We will not talk to or bother your child. We will observe for about 17 days between February 16 and the end of the school year. We will observe how often children in the class are on-task and off-task.
- We will ask your child to fill out a short survey when the study ends. Your child will not need to write his or her name on the survey. The survey will ask your child his or her age, racial and ethnic background, and gender. It will ask about how he or she likes what the teacher learned to do for behavior support during the study. It should take only about 10 minutes to fill out. The survey will be given in class when the teacher says it is OK.
- We will ask your child’s teacher to provide your child’s disability status information.

III. Risks:
In this study, your child will not have any more risks than in a normal school day.

IV. Benefits:
Your child will not directly benefit by being in this study. We hope to learn about how telling teachers what they do well can affect classrooms. This will help college instructors know how to better prepare teachers.

V. Voluntary Participation and Withdrawal:
Your child’s participation in this research is voluntary. Your child will not be treated any differently if you decide to say yes or no to him or her being in the study. Your decision will not affect your child’s education, grades, or placement. If you decide to withdraw permission after the study begins, you can notify the school or one of the people listed at the end of this letter.
VI. Confidentiality:
We will keep the research data as private as allowed by law. Your child, teacher, and school will be given a number ID. We will not write any names on study records. Only Adrienne Stuckey, Dr. Patton Terry, or Dr. McKeown will look at the list of child names and ID numbers. Only research staff will look at the data with student ID numbers. The data sheets will be kept in a locked cabinet. The data will be stored in two computers. These are firewall and password protected.

The data collected in this study will be analyzed and may be published in reports in presentations. However, your child’s name, teacher’s name, school name, and district name will not appear when we present this study. Your child’s name will not appear when the results are printed. Your child will not be identified by name.

VII. Contact Persons:
If you have questions about this study or would like to read the survey questions we will ask your child to answer, contact Adrienne Stuckey (astuckey2@gsu.edu), or her professors, Dr. Patton Terry (npterry@gsu.edu) or Dr. McKeown (dmckeown@gsu.edu). If you have questions or concerns about what it means for your child to be in a research study, you may contact Susan Vogtner. Susan Vogtner works at the Georgia State University Office of Research Integrity. That office is in charge of making sure people in studies are safe. You can contact her at (404) 413-3513 or svogtner1@gsu.edu.

VIII. Copy of Permission Form to Parent:
We will give you a copy of this consent form to keep. Please sign below if you will allow your child to be in this research study.

_____________________________________________  ______________
Parent/Guardian/Legally Authorized Representative  Date

_____________________________________________  __________________
Child’s Name (please print)  Child’s Date of Birth
(MM/DD/YYYY)

_____________________________________________
Researcher  Date
Appendix H

Georgia State University
Department of Educational Psychology and Special Education
Teacher Informed Consent

Title: High School Teachers’ Use of Positive Behavior Supports
Principal Investigators: Dr. Nicole Patton-Terry and Dr. Debra McKeown
Student Principal Investigator: Adrienne Stuckey

I. Purpose:
You are invited to participate in a research study. During the study, we will teach you a short positive behavior support routine to use at the beginning of each class period. The purpose of the study is to see what effect the routine has on teacher classroom management and student behavior. You will be informed of the exact nature of the routine when you receive training to use it. After learning what the routine is, you can let us know if you still want to be in the study. You are invited to participate because you are a special education high school teacher.

II. Procedures:
We will ask you to participate in the following ways:
• Fill out a class-wide behavior screener that should take about 20 minutes to complete.
• Teach as you typically would during the baseline observation sessions. The researcher will observe the class and your teaching for the first 30 minutes of each lesson that is observed. Baseline phase should last approximately 5 sessions, with some additional intermittent observations until you begin the intervention.
• Participate in a 1 ½ hour professional development session at a time of your convenience to learn a short (30-60 second) positive behavior support routine. In that session, you will practice using the routine until you have mastered it.
• Start using the routine at the beginning of all observed lessons after the professional development session. The researcher will monitor how you deliver the routine. If you need it, she will schedule a 5-10 booster session at a time of your convenience to help you master it again. This phase should last about 5 sessions.
• Up to two weeks after the study, the researcher will return for two final observations.
• After that, we will ask you to complete a questionnaire that will ask for demographic and teaching experience information. It will also ask for your opinion of the routine you learned. It should take about 10 minutes to complete.

We will not tell you everything about the study in advance. When the study is over, we will tell you everything. At that time you can choose whether you want to let us use your information or not.

III. Risks:
In this study, you will not have any more risks than you would in a normal day of teaching.
IV. Benefits:
Participation in this study may or may not benefit you personally. Overall, we hope to gain information about positive behavior supports that may help improve teacher classroom management and students’ classroom experiences and behavior. This may give colleges good information about how best to train teachers.

V. Voluntary Participation and Withdrawal:
Participation in this research is voluntary. You do not have to be in this study. If you decide to be in the study and change your mind, you have the right to drop out at any time. During the 1½ hour professional development training session, you will learn about the exact nature of the positive behavior support routine and be asked whether you would like to leave the study at that time. Whatever you decide, you will not lose any benefits to which you are otherwise entitled. Your decision will not affect your employment or treatment by your school leaders.

VI. Confidentiality:
We will keep the research data as private as allowed by law. We will use a code name instead of your name on study records. Only Dr. Patton Terry, Dr. McKeown, and Adrienne Stuckey will have access to the identifying information you provide. Only research staff will look at the data. The data sheets will be kept in a locked cabinet. The data will be stored in two computers. These are firewalled and password protected. You will not be identified personally. Your name and other facts that might point to you will not appear when we present this study or publish its results.

VII. Contact Persons:
If you have questions about this study, contact Adrienne Stuckey (astuckey2@gsu.edu), or her professors, Dr. Patton Terry (npterry@gsu.edu) or Dr. McKeown (dmckeown@gsu.edu). If you have questions or concerns about what it means for your child to be in a research study, you may contact Susan Vogtner. Susan Vogtner works at the Georgia State University Office of Research Integrity. That office is in charge of making sure people in studies are safe. You can contact her at (404) 413-3513 or svogtner1@gsu.edu.

VIII. Copy of Consent Form to Subject:
We will give you a copy of this consent form to keep. If you are willing to volunteer for this research, please sign below.

_____________________________________________   ______________________
Participant Printed Name and Signature    Date

_____________________________________________  ______________________
Researcher         Date
Appendix I

Georgia State University
Department of Educational Psychology and Special Education
Student Informed Assent

You are invited to be in a research study because you are in ________’s class. We will invite all the students in your class to be in the study. The researchers will visit to watch the class. We will also watch your teacher. The researchers will watch how students pay attention during class. In a few weeks, the study will be over. Then, we will ask you to answer survey questions about what you think about school.

You don’t have to do anything different at school during the study. The survey questions are all we will ask you to do. Nothing bad will happen to you if you say it’s OK for us to watch you learn. Nothing really good will happen to you, either. From this study we will get ideas for ways to help other teachers teach better. This will be important information.

Your teacher has said we can watch him or her teach. It’s OK if you don’t want us to watch how you are learning, though. Your teacher will treat you the same if you are in the study or if you are not in the study. No one will ever be told if you were in the study or not in the study.

The researchers will write about the study after it is finished. We will never use your name or say where we got the information. You might have questions about the study. If you do, you can email the researchers. They are Ms. Stuckey, Dr. Patton Terry, and Dr. McKeown. Their email addresses are astuckey2@gsu.edu, npterry@gsu.edu, and dmckeown@gsu.edu. You can contact Ms. Vogtner to ask questions about what people do in research studies. Her email address is svogtner1@gsu.edu. She works at the Georgia State University Office of Research Integrity. That office makes sure people in studies are treated fairly.

Please check one of the boxes to let us know if you do or don’t want to be in the study. We will give you a copy of this form to keep.

_____It's OK for the researchers to watch me learn, and I'll answer the survey questions.

_____I don't want the researcher to watch me learn.

________________________________________________________________________

Student’s Printed Name                     Signature                     Date

________________________________________________________________________

Investigator Obtaining Assent                     Date
Appendix J

Debriefing Script for Teachers & Addendum to Professional Training Materials

The following script and handout were used to debrief the teachers regarding the concealment of the outcome variable being measured (specific praise rate):

“You may remember that we did not tell you everything about this study in advance. Now we will. We were specifically looking for general and specific praise given by the teacher. We didn’t tell you in advance so that your behavior would be natural and spontaneous. Now that you know this, you are free to remove your data from the study if you wish. If you want to remove your data, please let me know now or in the next 48 hours. My contact information is [redacted] or astuckey2@gsu.edu.”

Prompting and Praising:
Support Your Existing Routines During Lessons

Positive Behavior Management

- Patterson and Reid (1970) describe reciprocal interaction in families; can be applied to classrooms
- Positive, mutually reinforcing social exchanges increase the likelihood of future positive interactions; preferred over coercive management techniques
- We can effectively teach appropriate behavior to all students. All positive behavior interventions and support practices are founded on the assumption and belief that all students can exhibit appropriate behavior. As a result, it is our responsibility to identify the contextual setting events and environmental conditions that enable exhibition of appropriate behavior. We then must determine the means and systems to provide those resources.

https://www.pbis.org/school/primary-level
Specific Praise

Approval statements that directly describe the desired behavior a student or group of students have carried out; also called behavior-specific praise (Sutherland, 2000)

- “(Student A), thank you for holding the answer in because it gave (Student B) time to think”
- “Your project was great, especially the part where you contrasted the two types of Medieval weapons in battle”

Contrasts with general praise (e.g., “Good job”) which lacks specific description

When presented following student behavior, with authenticity and believability, may serve as effective reinforcement (Brophy, 1981)

Shown to result in improved classroom behavior, attendance, work completion, academic interest, & accuracy (e.g., Mesa et al., 2005; Chalk & Bizzi, 2004)

Lesson Expectations

- Class wide expectations: commonly 3-5 positively and behaviorally stated rules (Gable et al., 2009)
- Advance teaching of rules with frequent reminders can be used to prompt for desired behaviors before problem behavior occurs (Colvin et al., 1997)
- A common component of behavior management intervention packages (De Pry & Sugai, 2002)

https://www.pbis.org/school/pairacy-level

Cue Cards – Practice in Pairs

Criterion: 3 x 100% fidelity

1. **Expectations Promoting Routine**
   - Point and read
   - Tell: one benefit
   - Tell: one example
   - Tell: one non-example
   - Ask: check for understanding

2. **Partner role play an expected behavior**

3. **Specific Praise**
   - Express approval
   - Name the behavior
Appendix K
Teacher Post-Study Survey

Gender: ______  Racial/Ethnic Background: __________________  Total years teaching: ______

Highest Degree Earned (and the type of degree): __________________

Number of years teaching high school and what you have taught
(e.g., special education, general education, subject areas, etc.): _______________________________________

Directions: The following questions ask about your perceptions of and level of satisfaction with the class-wide behavior prompting routine and the use of specific praise (definitions are below). Please indicate the degree to which you agree with each of the statements below and on the back of this page by circling the appropriate number for each statement.

Behavior prompting routine: A 30-60 second routine delivered at the beginning of a lesson or class period in which a teacher states the classroom expectations, directs students’ attention to a visual display of the expectations, and checks for class understanding of the expectations.

Specific praise: A verbal approval statement from a teacher to a student or a group of students that includes a direct statement or explanation of the specific behavior being praised. Can also include gestures that specify the praised behavior or that indicate approval.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Mildly Disagree</th>
<th>Mildly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Using the behavior prompting routine for class-wide expectations seems consistent with other lesson planning procedures I have used.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. I encounter student problems severe enough to warrant using the behavior prompting routine at the beginning of each lesson.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. Using the behavior prompting routine would not likely be successful in changing a student’s behavior.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. In terms of potential benefits, the amount of time required to use the behavior prompting routine at the beginning of each lesson would be well worth the investment.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Statement</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>5</td>
<td>My administrator/supervisor would likely support me receiving professional development for learning to use the behavior prompting routine.</td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>I believe the behavior prompting routine would be appropriate for use with a variety of students in my grade level.</td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>I believe most teachers would find the behavior prompting routine to be an appropriate method of interacting with a variety of kinds of students in my grade level.</td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>I believe most teachers would find using the behavior prompting routine at the beginning of their lessons to be suitable for daily use.</td>
<td></td>
<td></td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>My administrator/supervisor would consider training in the use of specific praise to be a valuable service for me.</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>Teacher use of specific praise would likely result in negative side effects for students in my grade level.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>My administrator/supervisor would be supportive of me utilizing specific praise as described.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>I believe I would feel comfortable recommending the use of specific praise to other teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>Compared to other interventions I use, the amount of time required to implement specific praise would be much greater.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Teacher use of specific praise does not seem fair to the student.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Overall, I believe the use of positive behavior supports would likely be beneficial to the student and teacher.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Appendix L
Student Post-Study Survey (Female Teacher Version)

Directions: Show how much you agree with each of the sentences by circling the best number.

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Mildly Disagree</th>
<th>Mildly Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>This research study was partly about your teacher’s class rules. We taught your teacher to remind you of the class rules every day at the beginning of class. What did you think of the reminders and rules?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. The rules and reminders were fair.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2. I think my teacher’s rules were too tough on me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>3. The rules and reminders caused problems with my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>4. There are better ways to remind me of the rules.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>5. The reminders could help other teenagers, too.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6. I liked the reminders.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7. Having these rules and reminders helped me do better in the class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Question</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Mildly Disagree</td>
<td>Mildly Agree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
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<td>----------</td>
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<td>-------------</td>
<td>-------</td>
<td>---------------</td>
</tr>
<tr>
<td>8. It is fair for my teacher to give praise.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>9. When my teacher praises me, she is being too nice.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>10. It causes problems with my friends when my teacher praises me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>11. There are better ways for my teacher to reward me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>12. Getting more praise could help other teenagers, too.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>13. I like it when my teacher praises me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>14. I do better in the class when my teacher praises me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>15. I wish my teacher would praise me more in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>16. I wish my teacher would praise me away from people so no one would hear it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>