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Tired Consultation to Improve and Maintain Teachers' Behavior Specific Praise

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TIRED CONSULTATION TO IMPROVE AND MAINTAIN TEACHERS'

BEHAVIOR SPECIFIC PRAISE

by

Mariangely Meléndez-Torres Galán

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Approved by:

Dr. Brad A. Dufrene, Committee Chair
Dr. Daniel Tingstrom, Member
Dr. Keith Radley, Member
Dr. Evan H. Dart, Member

_____ _____ _____
Dr. Brad A. Dufrene   Dr. Keith Radley   Dr. Karen S. Coats
Committee Chair   Director of School   Dean of the Graduate School

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ABSTRACT

Many teachers are ill prepared in behavior management and literature has
demonstrated the relationship between poor classroom management and academic
outcomes. Common strategies to address teachers' skill deficits in classroom
management include didactic training and school-based consultation. Literature suggests
that traditional didactic training can immediately increase knowledge acquisition, and
school-based consultation is used to respond to ongoing academic and behavioral
outcomes. However, both of these methods commonly fail to result in implementation
fidelity and long-term maintenance of skill utilization. Research in the education field
has demonstrated large to very large effect sizes for systems such as Response to
Intervention (RtI) in improving academic and behavioral outcomes of students. These
instruction models have inspired a growing body of literature applying tiered instruction
to teacher training, with preliminary results supporting tiered approaches to consultation.

The purpose of this study was to extend the emergent literature of tiered
approaches to consultation by providing teacher training on a foundational classroom
management strategy: Behavior Specific Praise (BSP). A multiple baseline design across
four high school teachers and classroom dyads was used, with results overall
demonstrating that not all teacher participants required the same level of training in order
to improve their rates of BSP to 0.5 BSP/minute. In this study, three out of four teachers
benefited from the most intensive level of training (i.e., Tier 3), whereas only one teacher
participant required a lesser intensive level of training (i.e., Tier 2). Results show
variability in classroom behavior that was sometimes consistent with issues of delivering
BSP at the prescribed rate. In regards maintenance, all teacher participants demonstrated

a decrease in their rate of BSP; however, levels of reprimands for all teachers decreased

below baseline levels. Additionally, all teachers rated this tiered consultation approach as

socially valid. This dissertation discusses these results in light of visual analysis as well

as limitations and directions for future research.

ACKNOWLEDGMENTS

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CHAPTER I - INTRODUCTION

School psychologists are trained to provide a variety of services that directly address children and adolescents' academic and behavioral needs. Some factors, however, make it challenging for school psychologists to provide these services effectively to *all* students in need of such help (Erchul & Sheridan, 2014). School consultation has been successfully used in this field for more than three decades (Andersen, et. al., 2010) and represents an alternative for fulfilling the mission of giving "psychology away" (Miller, n.d., p. 1074) to the benefit of others.

Erchul and Sheridan (2014) provided a comprehensive review of school-based consultation procedures. Accordingly, school-based consultation is a type of service in which problem solving is effected via a professional relationship between a consultant (expert) and a consultee (usually a person in direct contact with the source of concern). The consultant interacts directly with the consultee by providing training on specific techniques that are expected to improve the conditions of the client. Thus, the consultant technically serves the client, but indirectly. Although there are many models used within consultation, behavioral or problem-solving consultation is the most commonly used approach to consultation in school psychology (Erchul & Sheridan, 2014; Kratochwill, Elliot, & Busse, 1995).

School-based consultation is triggered in response to current problems. Some examples include teachers' difficulties maintaining classroom management and addressing challenging behaviors, and insufficient academic gains of an individual or a group of students. Unfortunately, many teacher preparation programs in the US do not incorporate courses that prepare educators to manage students' behavior effectively

(Dart, Radley, LaBrot, Pasqua, & Melendez-Torres, in prep.; Tillery, Varjas, Meyes, & Collins, 2010). Therefore, it is not surprising why teachers tend to use less effective techniques, like reprimands, more often than empirically-supported techniques, such as praise (Moore Partin, 2010). Research has shown that disruptive behavior in classrooms may result in negative consequences such as diminished academic instruction and poor academic outcomes (Luiselli, Putnam, Handler, & Feinberg, 2010; Vitaro, Brendgen, Larose, & Tremblay, 2005). Furthermore, the increased demands in accountability that educators face makes it imperative that teachers understand how to effectively manage their class' behavior so that academic outcomes are enhanced.

Federal legislation mandates prevention, evidence-based practices, and data-based decision-making (Erchul & Martens, 2010). Systems that facilitate holding schools accountable to these mandates and also have a positive impact on students are necessary. An example of a system that promotes such practices for students is Response-to-Intervention (RtI; National Center on Response to Intervention, 2012). RtI includes a continuum of academic and behavioral supports that are designed to prevent student academic and behavioral difficulties.   Moreover, RtI includes a continuum of supports that can be provided based on students' improvements or challenges to improve with prescribed interventions. Typically, RtI is arranged as a three-tiered approach, with Tier 1 including universal supports (e.g., scientifically-based curriculum, evidence-based classroom management strategies), Tier 2 including low intensity, high efficiency supports (e.g., small group reading interventions), and Tier 3 including individualized and more intensive interventions (e.g., individually administered intensive reading intervention). An increasing number of studies have reported moderate to large effect

sizes supporting RtI as an effective method for preventing poor student outcomes and reducing unnecessary special education placements (e.g., Burns, Appleton, & Stehouwer, 2005; Fairbanks, Sugai, Guardino, & Lathrop, 2007).

RtI systems set the stage for consultation services to take place in the schools at the individual, small, and large group levels (Erchul & Martens, 2010). Given that RtI is evidence-based for improving students' behavioral and academic skills, it is proposed that an RtI approach to school-based consultation would also be beneficial to support teachers' implementation of evidence-based classroom management strategies, in particular behavior specific praise (BSP; Briere, Simonsen, Sugai, & Myers, 2015). BSP is an evidence-based classroom management technique that is easy to use and has been associated with improvements in students' behavior (Blaze, Olmi, Mercer, Dufrene, & Tingstrom, 2014; McAllister, Stachowiak, Baer, & Conderman, 1969;).

A review of the literature on the traditional use of school-based consultation, teacher-training modalities, and treatment integrity, is presented next. Furthermore, literature on school-based consultation for teacher praise follows. Finally, a review on the preliminary evidence of the use of an RtI approach to consultation is provided.

CHAPTER II – REVIEW OF THE LITERATURE

School-based Consultation

School-based consultation is evidence-based for improving a variety of student

outcomes (Andersen et al., 2010), and constitutes one of the primary roles of school

psychologists (Noell, Duhon, Gatti, & Connell, 2002). Erchul and Sheridan (2014)

defined school-based consultation as "an indirect model of delivering educational and

mental health services whereby a professional with specialized expertise (i.e., consultant)

and a staff member (i.e., consultee) work together to optimize the functioning of a client

[or group] in the staff member's setting" (p. 3). School-based consultation is initiated on

the basis of on-going concerns in regards to a student's or group of students' academic

and/or behavioral performance. Such services are classified as indirect because

consultants do not work directly with the target client, but rather train consultees in

strategies for addressing reported concerns. These interactions aim to *optimize* teachers'

awareness and skills for intervening with a problem (Erchul & Martens, 2010). Another

goal of consultation is maintenance of consultation-acquired skills and generalization of

such skills to future similar situations (Erchul & Sheridan, 2014).

There are several models used in school-based consultation. As cited in Martens,

DiGennaro, Reed & Magnuson in 2014, behavioral consultation (BC; Bergan, 1977;

Bergan and Kratochwill, 1990) has demonstrated the most significant outcomes out of the

different models (e.g., Sanetti & Kratochwill, 2008; Sterling-Turner, Watson, & Moore,

2002), is most preferred by practitioners (Medway & Forman, 1980), and has been

identified as the model most school psychologists are trained to implement (Newman,

Barrett, & Hazel, 2015). BC has the same foundation, goals, and purposes as other

models of consultation; so, in addition to problem solving, it seeks to increase consultees'

knowledge and skills. Traditionally, BC's problem-solving process occurs throughout a

continuum of 4-stages: (1) problem identification, (2) problem analysis, (3) plan

implementation, and (4) plan evaluation (Martens et. al., 2014). The problem

identification stage is one of the most important problem-solving stages in BC

(Wickstrom, Jones, LaFleur, & Witt, 1998). During this stage the consultant and

consultee discuss, identify, and eventually objectively define the target problem in terms

of topography, frequency, settings, and conditions in which the problem typically occurs.

Data collection (i.e., baseline) follows problem-identification, and those data are used

during problem analysis at which stage an intervention is developed. During these first

two stages the consultant facilitates consultees' understanding of the problem in terms of

environmental variables that precede and maintain the concern. Next, teachers receive

training in the skills necessary for the implementation of a prescribed intervention and

then implement the intervention during the plan implementation stage. Finally, the plan

evaluation stage is where the effects of the prescribed intervention are discussed and

analyzed.

<div align="center">Teacher Training</div>

Indirect and direct training are the two ways in which teacher training can be

conducted. Indirect training consists of small- or large-group didactic sessions in which

instructions are provided in either verbal, written, or multimedia formats (e.g., Ivy &

Schreck, 2008). Examples of indirect training are presentations and professional

development sessions. Traditionally, indirect training will not include role-play or

demonstration of strategies. Indirect training is typically only informative. Direct

<div align="center">5</div>

training, on the other hand, uses the principles of behavioral skills training (Parsons, Rollyson and Reid, 2012), which in addition to including didactic training, includes strategies such as expert modeling, role-play, and performance feedback (e.g., Dufrene et. al., 2012). These methods of training are important for they are the gateway of "giving psychology away" (Miller, n.d., p. 1074).

Indirect Teacher Training

Prevention of and accountability for academic and behavioral outcomes has been stressed in the era of high-stakes testing. As a result, schools are in need of procedures that promote teachers' expertise and integrity in the use of evidence-based practices, preventative interventions, and database decision-making (Erchul & Martens, 2010). Every year, federal funding is assigned for large-group didactic training opportunities (e.g., workshops and/or professional development) in hopes to close teachers' skills gaps and consequently promote students' outcomes. A report from the National Staff Development Council (Darling-Hammond, Chung Wei, Andree, Richardson, & Orphanos, 2009) stated that nearly 90% of teachers in the US participated in some kind of workshop that year. Despite these efforts and high rates of teacher participation and attendance, research has shown overall little evidence for the effectiveness of didactic trainings in improving student academic (Yoon, Duncan, Lee, Scarloss, Shapley, 2007) and behavioral outcomes (Bowles and Nelson, 1976). Moreover, Darling-Hammond and colleagues (2009), reported that teachers do not perceive such opportunities as useful.

Gulamhussein (2013) reviewed the teacher professional development literature and found that indirect trainings are not as effective because teachers still struggle at executing the strategies taught during didactic trainings (i.e., an issue of treatment

integrity). Although teachers may demonstrate understanding of the theories behind the strategies taught, the actual implementation represents a struggle for most teachers (e.g., Duncan, Dufrene, Sterling, and Tingstrom, 2013). Consequently, due to poor integrity or lack of implementation of the procedures, teachers' adherence is rarely reinforced by improved student outcomes (Dufrene et. al., 2012).   Several studies compared the effectiveness of indirect versus direct training methods, with results overall supporting direct training (Coffee & Kratochwill, 2013; Dufrene, et. al., 2012; Dufrene, Lestremau, & Zoder-Martell., 2014; Sterling-Turner et. al., 2002) as the most effective training method for ensuring treatment integrity and adherance.

Regardless of evidence indicating ineffectiveness of indirect training, it is still emphasized. It has almost become a standard for school districts to organize workshops and/or professional development days because more teachers are targeted at once. For this reason, based on a review of the literature, Gulamhussein (2013) proposed five principles for effective professional development. These principles are an integration of traditional methods used during indirect training (verbal interactions) and evidence-based procedures used in direct teacher training (skills training). The first principle proposed by Gulamhussein is related to the length of the workshops. Workshop sessions should be long enough to provide teachers with sufficient hands-on experience and feedback. The second principle states that teachers should receive support from consultants during implementation (e.g., after the workshops). Third, empirical evidence for the presented strategies should be stressed during indirect teacher training. Additionally, empirical evidence should be accompained by active teacher participation in the form of role-plays, discussions, expert modeling (video or live), and *in-situ* observations. Related to the

latter principle, the fourth principle stresses the importance of expert modeling. Finally, the fifth principle states that the content of professional development sessions should be consistent with the developmental and educational level of teacher-student dyads (Gulamhussein, 2013).

Direct Teacher Training

Direct training procedures place a premium on authentic practice in implementing the interventions. In other words, in addition to obtaining the knowledge through didactic training, teachers receive direct feedback and support in regards to the correct use of taught strategies. Research has consistently supported direct training procedures, specifically its association with better treatment integrity and maintenance when compared to didactic trainings alone (Bowles & Nelson, 1976; Sterling-Turner, et. al, 2002). Moreover, positive student outcomes have also been associated with higher levels of treatment integrity displayed by teachers who received direct training (Dufrene et. al., 2012), which further supports direct procedures for teacher training.

An effective direct training method within BC is Direct Behavioral Consultation (DBC; Watson & Sterling-Turner, 2008) which is an extension of traditional BC. In DBC, all procedures of BC are used (i.e., the four problem-solving stages); however, DBC differs in regards to training procedures. With DBC, instead of solely relying on teacher-consultant(s) verbal interactions and in an environment that might be sterile to the real situation of the teacher's classrooms, teachers are trained in the natural setting (i.e., classrooms) and during regular classroom activities. Within DBC, the consultant acts as a coach by providing immediate prompts and feedback (Watson & Sterling-Turner, 2008).

DBC emerged from existing empirical evidence in regards to the use of direct training methods to instruct graduate students in school psychology in the accurate use of BC (Kratochwill et. al., 1995; Newman, et. al., 2015). Kratochwill and colleagues (1995), demonstrated that direct training in BC aided students in maintaining and generalizing integrity of correct problem-solving strategies relative to just didactic training. Sterling-Turner and colleagues (2002) expanded the literature by testing direct training on teachers' treatment integrity. A variety of many other procedures and instruments (e.g., Motivaider® and bug-in-the-ear device) have been used within DBC to increase teachers' treatment implementation (e.g., Coogle, Rahn, & Ottley, 2015; Dufrene et. al., 2012; Dufrene et. al., 2014; Nguyen, 2015; Scheeler, McAfee, Ruhl, & Lee, 2006;). Based on the importance of accuracy of treatment implementation this review continues with a discussion of the treatment integrity literature.

<div align="center">Treatment integrity</div>

Treatment integrity is the term used to describe the degree to which an intervention is implemented as planned (Peterson, Homer, & Wonderlich, 1982; Yeaton & Sechrest, 1981). Poor adherance to known evidence-based interventions may result in diminished treatment gains (Perepletchikova & Kazdin, 2005); as such, treatment integrity is an important variable (e.g., Gresham, 2009; Gresham, MacMillan, Beebe-Frankenberger, & Bocian, 2000; Perepletchikova & Kazdin, 2005; Sanetti & Kratochwill, 2008). There are internal validity implications for failure to implement or measure treatment integrity. Without treatment integrity data, the relationships between independent and dependent variables cannot be established (Gresham, 2009). Conclusions as to whether change or lack of change of the target behaviors was the result

of the intervention cannot be made without measuring and demonstrating integrity (Gresham, 1989; Peterson et. al., 1982).

Researchers have studied factors that potentially influence teachers' adherence to an intervention. Social factors (e.g., consultation style, consultant characteristics), complexity of proposed interventions (i.e., type of behavior, response effort, materials needed for implementation, time), consultee's motivation, as well as perceptions of the effectiveness of the intervention may all influence the adherence to treatment procedures (Gresham & Kendell, 1987; Sanetti & Kratochwill, 2008). Regardless of the presence of factors such as the ones mentioned above, performance feedback (PF) has demonstrated beneficial results for improving and sustaining integrity to interventions (Noell et al., 2005; Coffee & Kratochwill, 2013).

Performance Feedback

PF involves reviewing integrity and outcomes, providing input in regards to performance (i.e., praise or corrective feedback), and offering clarifications by answering questions or addressing concerns (Codding, Feinberg, Dunn, & Pace, 2005). PF may be provided in a variety of ways such as daily (Codding, Livanis, Pace, & Vaca, 2008), weekly (Noell et. al., 2005; O'Handley, Dufrene, & Whipple, 2018), with and without graphical representations of data (Reinke, Lewis-Palmer, & Martin, 2007), verbally during face-to-face meetings (Dufrene, et. al., 2012), and via teleconference or through a mobile device (Bice-Urbach & Kratochwill, 2016)

Noell and colleagues (2005), conducted the first randomized controlled trial in which treatment integrity was assessed after employing three different types of consultation strategies: (1) weekly follow-up meetings, (2) social influence toward

commitment with the intervention, and (3) PF. In this study, seven consultants provided

BC to a group of 45 teachers from kindergarten through fifth grade that requested

assistance with students experiencing academic and behavioral problems. Each

consultant met with a teacher for problem identification and analysis, development of

intervention plans, and training on intervention procedures. During plan implementation,

teachers were randomly assigned to one of the three consultation conditions, which were

used for three weeks with each participant.

Teachers in the weekly follow up condition met with consultants for

approximately five minutes to discuss the intervention and address questions. Teachers

in the social influence condition met with consultants who provided a rationale for

continuing to provide the intervention (e.g., emphasizing the benefits of providing the

intervention to the student, as well as highlighting that it is part of the teacher's

commitment, and stressing that continuing to provide the intervention in the same manner

will add to the teacher's credibility). Teachers in the PF condition met with the

consultants who presented graphed data of teachers' treatment implementation, student

outcomes, and provided praise for adherence to the treatment steps.

Compared to the other two consultation conditions (i.e., weekly follow up and

social influence), treatment integrity of teachers in the PF condition was relatively

consistent and high in level across the three weeks of implementation (i.e., mean

treatment integrity of 81.8%, 74.2%, and 75.2%, for week 1, 2, and 3, respectively).

Unlike previous and more recent findings, this study showed discrepancies between

treatment acceptability and treatment integrity. All teachers regardless of the

consultation condition and their levels of implementation rated the interventions as

acceptable; however, their overall integrity of implementation was not optimal.

Teachers' high levels of acceptability might be related to factors such as motivation as all

participants in this study self-nominated to the study. Thereby, the latter might be

interpreted as an issue of reactivity.

Another study by Kaufman, Codding, Markus, Tryon, and Kyse (2013), compared

two methods of providing PF during BC: verbal and written. Four teachers and preschool

student dyads from a private school setting participated in this study. The principal of

this school referred the teachers for consultation due to having students with behavioral

problems such as out of seat, off-task behavior, aggression, and inappropriate

vocalizations. This study also used the standards by Bergan and Kratochwill (1990) as

reference for conducting BC; therefore, after completion of the Problem Identification

Interview, the behaviors were assessed by using both a functional analysis rating scale

and classroom observations for each student. Individual treatment plans were developed

based on the results from the latter evaluation.

After completion of baseline data collection, teachers were trained on treatment

procedures using a two-component teacher training. The first component included

didactic training, prompts, and feedback (praise and corrections) during a role-play

session. The second component consisted of direct training in the classroom (i.e.,

prompts and feedback when needed) until the teacher demonstrated 100% adherence to

the procedures. Following baseline, verbal or written PF were counterbalanced across

teacher participants. Written PF was provided twice a week by leaving a letter-sized

paper in a designated location and included the following: praise for adherence to

procedures, corrective feedback, and a review of the steps of the intervention. Regarding

verbal PF, the teacher met for a five-minute meeting with the consultant twice per week. The same procedures as in written PF were used with verbal PF, with the only difference that feedback was always provided in person. For both conditions, consultants did not prompt teachers to ask questions; however, during verbal PF some teachers asked for clarification of intervention steps. A return to the PF condition that demonstrated the greatest improvements was implemented if the second method was not effective. Finally, maintenance was planned and assessed and the procedure consisted of fading the schedule of PF from twice per week, to once per week, until completely eliminated.

During baseline (when no prompts, modeling or feedback was provided) teacher's implementation baseline mean ranged from 43.5% to 60%. After intervention training, teachers were able to implement intervention steps to almost 100%. Overall, the use of either written or verbal PF demonstrated ongoing improvements in adherence to intervention steps for all teachers. Teachers that received written PF after baseline exhibited increases in level of integrity; however, these increases were not as substantial when compared to the improvements in integrity of teachers receiving verbal PF immediately after baseline. The teachers who received written PF first, received verbal PF thereafter, which was followed by substantial improvements in level, to almost 100%. These levels of treatment integrity were maintained when the schedule of PF was thinned and ultimately eliminated.

In regards to the teachers that received verbal PF first, one teacher maintained integrity during written PF, PF thinning, and maintenance; however, the other teacher that received verbal PF first, demonstrated a decreasing trend when PF was written. Upon re-implementation of verbal PF, the teacher implemented the treatment with higher

levels of treatment integrity, which was maintained during subsequent phases. Overall, these studies demonstrate that PF is an effective way to improve treatment integrity regardless of the frequency and method used. Kaufman and colleagues' (2013) results suggest verbal PF is sufficient to increase and maintain adherence for most teachers. Additionally, although measures of treatment acceptability were high for both conditions, Kaufman and colleagues reported "a slight preference for verbal [PF] was noted" (p. 288).

Teacher Training for Praise

A common classroom-wide issue experienced by teachers is student disruptive behavior (Roberts, Kemp, Rathbun, & Morgan, 2014). Such behavior has been shown to result in negative outcomes for students (Barth, Dunlap, Dane, Lonchman, & Wells, 2004; Trentacosta, Hyde, Shaw, & Cheong, 2009). Teachers often times react to these behaviors by implementing consequences such as reprimands or other negative strategies (Moore Partin, 2010), which have been shown to lead to high levels of anxiety in the teachers with little to no improvements in students' behavior (Clunies-Ross, Little, & Keinhuis, 2008). Due to the negative impact of problem behaviors, several strategies are available that, when used as intended, may lead into improvements in classrooms and learning environments (Skinner et. al., 2000; Tingstrom et. al., 2006; Workman et. al., 1982).

Behavior specific praise (BSP; Blaze et. al., 2014; McAllister et. al., 1969) is one of those strategies that may be used to improve students' behavior in the classroom. BSP is an easy-to-use intervention in which specific and/or general feedback is delivered to a student or group of students by acknowledging a desired behavior (Myers, College,

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Simonsen, & Sugai, 2011). In general, the only resources a teacher would need for praise is his or her attention as to what a student(s) is doing that would access praise (Beaman & Wheldall, 2000; Coffee & Kratochwill, 2013; Workman et. al., 1982). Students could receive praise in many different ways including smiles, high-fives or verbal statements (e.g., "good job!"). Coffee and Kratochwill (2013) provided guidelines for effective praise delivery. Accordingly, praise should be specific; therefore, praise statements should include the name of the person being praised and a description of the behavior that accessed it. Furthermore, Coffee and Kratochwill indicated that praise should be delivered with enthusiasm, using a variety of statements and highlighting students' efforts and performance.

Although there is evidence that supports the effectiveness of praise in increasing appropriate behavior, teachers continuously report little to no training in overall positive classroom management techniques, including BSP (Briere, et. al., 2015; Dart et. al., in press.; Tillery et. al., 2010). School-based consultation is the gateway for closing such research to practice gaps. Several studies have shown a need for robust training procedures that are effective in facilitating changes in teachers' behaviors. For example, Coffee and Kratochwill (2013) used a multiple baseline design to train four self-nominated teachers in the use and generalization of praise. Teachers referred specific students with behavioral problems. A screening interview, a functional assessment questionnaire, and direct observations were conducted to select students whose behaviors were hypothesized to be maintained by social attention. From that screening, a total of 15 students were selected of which, two students for each of the four classrooms were arbitrarily assigned to a target or a generalization condition. The remaining students were

considered "non-target students" and students in the classroom not selected for the study were considered "other students". After completion of traditional problem identification and problem analysis stages of BC, the procedures for praise delivery were explained to the teachers in terms of when to deliver praise and how frequently. Role-play was used until (1) teachers demonstrated understanding of praise procedures, and (2) teachers reported being prepared and comfortable using praise. Following baseline data collection and the latter didactic training, teachers' adherence was assessed throughout the following phases: intervention, generalization prompts, and generalization training. A "booster session" (Coffee and Kratochwill, 2013, p. 14) was needed during the intervention phase because teachers were still not demonstrating adherence to procedures.

During baseline, teachers' rate of praise to target, generalization, non-target, and whole class students was near zero-rates or below two praise statements per 15-minute observation. Teachers 2 and 3, however, provided slightly higher rates of praise during baseline to "other" students. During intervention and despite "booster sessions", Teachers 1, 2, and 4 praised target students at lower and variable rates, whereas, Teacher 3 remained at a level similar to baseline. All teachers demonstrated similar rates of praise toward generalization, non-target, and whole class; however, when comparing praise directed toward these students, teachers' praise to students not necessarily included in the study was slightly higher during this phase.

The use of a generalization prompt did not result in substantially increasing teachers' levels of praise toward all students in this study. During generalization training, teachers rate of praise toward target, generalization, non-target and whole class continued as in previous phases; however, while variable, Teachers 1 and 2 substantially increased

rates of praise toward other students. Despite inconsistencies in adherence to the procedures of this intervention, Teachers 1, 2, and 3 perceived that the target student behavior was improving; whereas, Teacher 4's perceptions of improvements of the target student behavior was variable.

In short, visual analysis of the rate of praise statements per observation session showed teachers did not deliver praise consistently and at the prescribed rates to the target students (i.e., poor treatment integrity). Furthermore, results did not show a substantial increase in praise statements to generalization or non-target students. These results show limited benefits in regards to treatment integrity and the effectiveness of the training method. Moreover, this study highlights a need for consideration of individual teacher differences at achieving adherence after particular methods of training.

Another study demonstrating limited effects of didactic training in treatment integrity was published by Briere and colleagues (2015). This study examined the effects of indirect didactic training provided by an experienced teacher and use of a self-recording (clicker) device to increase teacher praise. For the didactic training, experienced teachers described the procedures of praise delivery. As part of the self-monitoring intervention, teachers used a clicker to self-record their frequency of praise. An independent observer assessed procedural integrity by observing whether the teacher used the clicker, and also by independently recording the frequency of praise and then calculating agreement between the teacher's count and the observers' count. Despite teacher-collected data showing improvements in level and trend from baseline to consultation and follow-up conditions, the results may be viewed with caution given some limitations. First, in regards to treatment implementation, teachers' self-rated

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integrity corresponding with true rate of praise and the use of the clicker was 81%.

Although the literature has not established an exact percentage of adequate treatment

integrity, this result is problematic given (1) the simplicity of praise as an intervention,

(2) the likelihood of accessing natural contingencies (e.g., negative reinforcement) in the

form of reductions in student disruptive behavior that aid in maintaining integrity, and (3)

the overall mean agreement for praise statements between the independent observer and

the teachers was 54.3%. Mainly, due to the low levels of inter-observer agreement

(IOA), accuracy of the teacher praise data may be problematic, which presents serious

threats to internal validity.

Direct Training for Praise

Compared to indirect training, direct training procedures have shown

effectiveness at changing teachers' behavior overall and in improving teachers'

adherence to praise delivery specifically (Blaze et. al., 2014; Dufrene et. al., 2012;

Dufrene et. al., 2014; Sterling-Turner et. al., 2002). For example, Sterling-Turner and

colleagues (2002) used procedures within BC to compare the effects in treatment

integrity when using either indirect or direct training procedures. Four teachers and their

students participated in the study. All students in this study exhibited problem behaviors

related to inappropriate vocalizations, disruptive behavior, off-task, and self-injurious

behaviors. Based on the information gathered during the initial stages of BC, a

behavioral plan was developed. The first phase of this study was baseline, during which

time observers collected data on just student behavior. After baseline, the consultant

provided indirect training to teachers using didactic training in the form of verbal

instructions. Although questions were answered, during indirect training the consultant

did not provide modeling of the procedures. Teachers were then encouraged to implement the plan with their students, and data collection resumed. During this phase, both student behavior and treatment integrity data were collected. In the final phase of the study, the consultant met with the teachers for the following: (1) PF (i.e., presentation of data representing teachers' performance and student behavior during baseline), and (2) didactic training with direct training strategies (i.e., provision of justification for the use of praise procedures, modeling and practice of the procedural steps, and immediate praise and corrective feedback). After that training session, data collection was resumed, and then data were analyzed in terms of treatment integrity and treatment effectiveness. Results of this study showed that didactic training *with* direct training strategies produced higher levels of adherence to praise procedures, relative to didactic training or indirect training alone. In regards to treatment effectiveness higher treatment integrity was associated with improvements in students' behaviors. A limitation of this study is that maintenance and generalization of the effects of direct training was not assessed.

Dufrene and colleagues (2012) conducted a study that assessed maintenance of treatment integrity after direct training. In this study, researchers coached teachers in praise procedures and effective instruction delivery (EID; Ford, Olmi, Edwards, & Tingstrom, 2001; Mandal, Olmi, Edwards, Tingstrom, & Benoit, 2000). Participants were four Head Start teachers and their classrooms dyads. The teachers first underwent an individual comprehensive didactic training with the consultant, which included: an explanation of praise and EID procedures, modeling, rehearsal, and feedback. After measuring the effects in treatment adherence following the latter training, a more intensive training procedure (i.e., *in-situ* training) was used. This second training

consisted of the consultant providing, through a BITE device, immediate prompts for both delivery of praise and use of EID.

Results from this study showed that both the comprehensive didactic training and *in-situ* training were effective in improving teachers' adherence to praise and EID procedures to levels above baseline. However, *in-situ* training showed substantial effects compared to baseline levels as well as comprehensive didactic training. Furthermore, concomitant improvements were also seen in overall student behavior. This study also showed preliminary evidence for the effectiveness of these training procedures in maintaining teachers' adherence to praise and EID steps over time. In this study, all but one teacher (due to not completing the study) demonstrated adherence to praise and EID procedures one month after the conclusion of the training. Moreover, maintenance of low levels of student disruptive behavior was also observed a month after direct training. Dufrene and colleagues hypothesized that adherence and maintenance of intervention procedures might have been negatively reinforced with reductions in student disruptive behavior.

Dufrene and colleagues (2014) expanded the previous study by applying the same procedures in an alternative school setting. Two novel aspects of this study were that (1) maintenance was assessed at two points in time (1-month and 2-month) after conclusion of the training, and (2) PF was used with one participant that did not demonstrate adequate adherence even after *in-situ* training. Two elementary school teachers and classroom dyads participated. Students in this study had a history of disruptive behaviors (which lead to placement in an alternative school setting), and Special Education services (categories of Other Health Impairments-ADHD, Emotional Disturbance, and Learning

Disability). Procedures for this study were similar to Dufrene and colleagues (2012), but teachers were only trained in praise delivery procedures. During baseline, teachers' rate of praise was very low (i.e., range: 0.00-0.35 praise statements/minute), whereas students' disruptive behavior was elevated. After baseline, teachers received skills training (i.e., rationale for praise, examples, models, rehearsal, feedback, and opportunities for questions) and their adherence to the procedures was re-assessed. Results of this training show one teacher slightly increasing praise, whereas the other teacher decreasing rates of praise to near zero levels. Classroom disruptive behavior remained at about the same high levels as in baseline.

The next phase of Dufrene and colleagues (2014) was *in-situ* training with a BITE. In this phase, the consultant directly prompted the teacher to deliver praise statements once every minute unless an instance of praise had occurred independently (i.e., without consultant's prompt). Similar to Dufrene and colleagues (2012), *in-situ* training resulted in an immediate increase in the rate of praise statements delivered by both teachers, which was concomitant with improvements in classroom behavior. These outcomes were maintained for one teacher at 1-month and 2-months follow up sessions; however, one teacher returned to baseline levels of rate of praise. This regression was associated with increases in student disruptive behavior. Researchers introduced an additional phase in which re-training using BITE with PF was used. This additional training provided some additional support to this teacher by the addition of PF and resulted in both (1) improvements in rate of praise that were maintained at 1- and 2-month follow up and (2) concomitant improvements in classroom behavior.

Summary of Teacher Training Studies

One of the main goals of school-based consultation is to provide teachers with supports that will enable them to enact positive change in students' academic and behavioral outcomes (Erchul & Martens, 2010). Moreover, an important goal of consultation is to assist teachers with current referral concerns, and also, to enable them to address future and similar concerns independently. Unfortunately, (1) teachers may be ill-prepared to address problem behavior in the classroom, (2) not all teachers will respond to evidence-based consultation procedures in terms of improving treatment implementation, and (3) the consultation literature is limited with regard to evaluating maintained and generalized teacher intervention implementation following consultation. Considering teachers varied preparation backgrounds with regard to evidence-based classroom management strategies, O'Handley and colleagues (2018) proposed that school-based consultants may conceptualize teachers' intervention implementation in the same manner that educators conceptualize students' academic performance. That is, consultants may consider using frameworks that include an RtI approach in which consultants have an array of increasingly intensifying training procedures that are implemented based on teachers' response to consultation.

RtI Approach to Consultation

The teacher training literature indicates that didactic instruction alone may not always result in teachers' accurate and consistent implementation of interventions; however, it is important to note that, although some teachers may not implement intervention following didactic instruction, some teachers may do so (Stormont, Smith, & Lewis, 2007). Moreover, for teachers that do not respond to universal didactic training,

consultants may gauge teachers' response to targeted consultation, and only implement intensive consultation should teachers not respond to targeted consultation. Fortunately, there is an emerging body of literature testing tiered approaches to consultation.

Myers and colleagues (2011) conducted one of the first studies testing a tiered approach to school-based consultation. This study was conducted in a school that implemented School-wide Positive Behavior Supports (SWPBS; Bradshaw, Koth, Bevans, Ialongo, & Leaf, 2008). All teachers received Tier 1 universal training for classroom management. Referral to Tier 2 consultation was based on teachers delivering reprimands at a ratio of four reprimands to one praise statement, and a rate of praise delivery that was below six statements per 10-minute observation, during three consecutive observations. The researchers also collected data for student behavior.

Tier 2 consultation consisted of a brief didactic training (i.e., rationale for use of praise, examples of praise). In addition, during that meeting performance feedback was given by reviewing baseline data (teacher and classroom behavior) and praising for appropriate use of the praise. Performance feedback meetings were then conducted once per week for approximately 10-minutes and the consultant reviewed praise and student behavior data. Tier 3 consultation consisted of daily PF meetings with both verbal and written (e-mail) communication. Moreover, teachers used a self-prompting procedure, such as a sticky-note that reminded them to praise, and the consultant provided additional modeling of praise delivery.

Results from this study showed consultants delivered consultation procedures with 100% fidelity. With regard to teachers' response to consultation, two of four teachers did not respond to Tier 2 consultation and as a result received Tier 3

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consultation. After Tier 3, these two teachers increased their rate of praise and returned to Tier 2 consultation where they displayed an increased praise. When consultation was terminated their praise during maintenance was variable and below achieved rates of praise during Tiers 2 and 3. The remaining two teachers increased praise during their initial exposure to Tier 2 consultation (not needing Tier 3); however, one of these two teachers' praise decreased to baseline level during maintenance. It is important to note that maintenance data for three of the four teachers included only two or three data points, as a result, the reliability of maintenance data is a concern. Factors such as teachers' acceptability and perceptions of the use of praise as well as components of the training may have contributed to overall poor maintenance results.

In a similar study, Simonsen and colleagues (2013) also tested a tiered approach to consultation. Simonsen and colleagues included four teachers and each teacher experienced a multiple baseline design across three classes. The authors did not provide a description of any universal training for classroom management, or praise in particular, that teachers may have received. During baseline, all four teachers delivered low rates of praise that were variable in all of their classes. Tier 1 consultation included a brief didactic training for praise and teachers self-monitoring praise use with a golf counter. If a teacher met the praise criterion in their first class, then the consultant met with the teacher and recommended using self-monitoring in the second class. The same procedure occurred for the third class. Tier 2 included (1) teachers setting a goal for praise use, (2) self-graphed number of praise statements delivered, (3) emailed self-graphed data to the consultant, and (4) self-reinforced (no description of this procedure) for meeting their goal.

Teacher 1 increased praise in two of three classes after receiving Tier 1 consultation. She elected to not receive Tier 2 consultation in the third class and withdrew from the study prior to maintenance data being collected. Teacher 2 increased praise in all three classes after receiving Tier 1 consultation and maintained praise in all three classes during maintenance (i.e., four observations conducted once per week). Teacher 3's response to Tier 1 consultation was variable in one class, and as a result she received Tier 2 consultation in that class. Teacher 3 also displayed low and variable praise during baseline in the other two classes and eventually declined to participate in Tier 1 consultation for those two classes. During Tier 2, Teacher 3's praise increased; however, maintenance was not collected because she withdrew from the study prior to maintenance being collected. Teacher 4 exhibited low and variable levels of praise during baseline for all three classes; thereby, Tier 1 consultation was introduced in two of three classes. Teacher 4 did not increase praise in one of the classes after Tier 1 consultation. When Tier 2 consultation was introduced, there was an initial increase in praise, but level decreased during the final three sessions. Additionally, the school year ended before maintenance could be evaluated in the one class in which Tier 2 was introduced. In the class in which Tier 1 was introduced, five data points were collected before the end of the school year and Teacher 4's response to Tier 1 consultation was variable.

There are some important limitations to Simonsen and colleagues (2013) that should be considered. First, two of four teachers withdrew from the study before receiving additional consultation services due to scheduling issues and "other issues unrelated to the study" (p. 186). Therefore, generalizing the conclusions of this study is

difficult. Second, only one of four teachers experienced consultation and maintenance phases. So, conclusions as to the extent to which these consultation procedures produced sustained increases in teachers' praise is unknown. Third, multiple violations to phase change decision rules for the multiple baseline design were committed (e.g., conditions for Teachers 3 and 4 were not staggered); therefore, internal validity is undermined. Fourth, Simonsen and colleagues identified their brief training and self-monitoring consultation procedure as Tier 1, but it was not universally implemented; so, the extent to which it corresponds to an RtI model is questionable. Finally, Simonsen and colleagues did not collect data for students' behavior; therefore, it is unknown if consultation impacted student performance, which is the primary goal of consultation.

O'Handley and colleagues (2018) conducted an additional study of tiered consultation procedures. Three elementary school teachers participated and received consultation services via a multiple baseline design across participants. The study was conducted in a school that implemented school wide PBIS (SW-PBIS), and all teachers received universal training for classroom management (i.e., BSP, effective instruction delivery, pre-correction). After the universal training, the researchers identified teachers that may benefit from additional consultation by examining the school's office discipline referrals (ODR). If a teacher wrote twice as many ODRs as the average number of ODRs written by a teacher in the school, the teacher was invited to participate in the study and received additional consultation services. When the teacher consented to participate in the study, baseline data collection began. If the teacher delivered less than 0.5 BSP statements per minute, then they qualified to participate in the study. Following baseline, the consultant provided Tier 2 consultation, which consisted of a brief meeting with the

consultant a month after the universal training. During this brief meeting the consultant

provided the teacher with their ODR and BSP data, along with data for their students'

behavior. Moreover, the consultant reminded the teachers of the rationale for using BSP

and recommended that they deliver at least one BSP statement every two minutes. At the

end of the meeting, the consultant provided the teacher with a Motivaider® (i.e., small

device that emits a vibration prompt at prescribed intervals), set the device to deliver

prompts once every two minutes, asked the teacher to wear the device each day in class,

and scheduled weekly follow-up meetings with the teacher to review data. During Tier 2

consultation, the consultant met the teacher once a week to provide PF, which included a

graphical representation of teachers' BSP delivery and students' behavior during class.

O'Handley and colleagues (2018) found that all three teachers increased their rate

of BSP when Tier 2 consultation was provided. Additionally, there were concomitant

reductions in teachers' rate of reprimands, and students' behavior improved. Finally,

teachers maintained BSP during follow-up observations.

There is an emerging body of literature that is testing tiered approaches to

consultation; however, additional research is needed before firm conclusions regarding

the effects of tiered consultation may be drawn. Moreover, previous research includes

limitations that must be addressed.

<div align="center">Purpose of the Study</div>

The purpose of this study is to extend the limited tiered consultation literature in

some important ways. First, this study included a partial replication of Myers and

colleagues (2011) and O'Handley and colleagues (2018) by testing tiered consultation

procedures for increasing teachers' use of BSP while evaluating concomitant effects on

students' behavior. Maintenance was also assessed. Finally, this study included an evaluation of teachers' perceptions of the social validity of the tiered consultation procedures, which has not been evaluated in previous tiered consultation studies. The following questions will be addressed:

1. For teachers that fail to respond to Tier 1 consultation, does Tier 2 consultation including tactile prompting (i.e., Motivaider®) and weekly performance feedback increase teachers' rate of BSP?

2. For teachers that fail to respond to Tier 2 consultation, does Tier 3 consultation including *in-situ* training and weekly performance feedback increase teachers' rate of BSP?

3. As teachers' rate of BSP increases, does class-wide level of academically engaged behavior (AEB) increase while disruptive behavior (DB) decreases?

4. Will teachers maintain improvements in their levels of BSP soon after consultation is terminated?

5. Do teachers' rate tiered behavioral consultation as socially valid?

CHAPTER III - METHOD

Participants and Setting

The participants in this study were four high school teachers (referred to by Teacher 1, Teacher 2, Teacher 3, and Teacher 4) and their students from a public high school in South eastern US. High school teachers were selected because no other study have used an RtI approach to consultation to train high school teachers in a foundational classroom management technique such as praise. The participating school had SWPBIS (National Technical Association Center on Positive Behavioral Intervention and Supports, 2011) in place, and an approximate total enrollment of 1,100 students during the 2016-2017 school year and 2017-2018 school year. Schools with SWPBIS often use data from the School-wide Evaluation tool (Todd, Lewis-Palmer, Horner, Sugai, Sampson, Phillips, 2012) to assess the fidelity of implementation of SWPBIS. Unfortunately, this data was not available to the researcher.

Teacher 1 and 4 taught Algebra I and Teachers 2 and 3 taught English II. All students were in ninth grade and there was a range of 25-28 students in each classroom. Some students had an Individualized Education Plan, but the school did not report the exact number of students to preserve confidentiality. Teacher 1 had less than five years of experience teaching, Teacher 2 had more than 10 years, Teacher 3 had between five and ten years of experience, and finally Teacher 4 was completing her first year of teaching experience. All teachers were high school level certified and had a minimum of a bachelor degree. Teacher 3 was pursuing doctoral studies in school administration and Teacher 4 was pursuing a Master's degree in Mathematics.

Prior to the beginning of data collection, this study received approval by the Institutional Review Board (IRB; see Appendix A) as well as approval from the school district (see Appendix B). Teacher selection criteria was based on O'Handley and colleagues (2018). All teachers from the participating school were required to attend a universal consultation (i.e., Tier 1) on the use of praise in the form of an in-service training that included didactic instruction. Teachers 1, 2 and 3 participated in this training during the beginning of the Spring semester of the 2016-2017 school year, whereas Teacher 4 participated in the same training in the Fall semester of the 2017-2018 school year. Two weeks after this training, the school counselor reviewed the average number of ODRs for the school and referred teachers that participated in the training who had an ODR record greater than the average number of ODRs for their school. From this review, the consultant referred ten teachers for consultation. The researcher invited those teachers to participate in tiered consultation and solicited their consent for participation in this study (see Appendix C). Five out of ten teachers responded to the invitation, of which three signed consent for participation. After explaining the research procedures and consent forms, the other two teachers indicated they were not interested in participating. Baseline data collection began after obtaining the teacher's consent for participation. After baseline, teachers with stable or descending trend in BSP and an average rate of BSP below 0.5 BSP/min met criteria for Tier 2 consultation (see specific rules in Data Analysis section).

There were two consultants in this study. Both Consultant 1 and Consultant 2 were advanced level doctoral students in school psychology with more than two years of supervised experience in consultation and satisfactory completion of coursework in

behavior modification and therapy as well as consultation processes. Consultant 1's

primary language was Spanish with a level of English language proficiency within the

category of Full Professional Proficiency (U.S. Department of State, n.d.). This category

is for individuals whose second language is English and are able to speak English with

sufficient accuracy and fluency to fulfill career pertinent needs. Consultant's 2 primary

language was English and given that this was also the primary language of participating

teachers, her level of English proficiency was not evaluated. Consultant 1 worked with

Teachers 1, 2, and 3 during the Spring of the 2016-2017 school year; whereas, Consultant

2 worked with Teacher 4 during the Fall and Spring semesters of the 2017-2018 school

year.

<div align="center">Materials</div>

Observation Tools

An audio device prompted observers as to when an interval had ended and when

to record instances of target behaviors. Observers used observation forms (see Appendix

D) to manually code the dependent variables throughout 120, 10-second intervals.

Consultation Materials

Tier 1 Training Materials. The consultants used a slide show presentation during

universal training or Tier 1, which included information on the empirical support for and

procedural details of BSP (Blaze et. al., 2014; McAllister et. al., 1969), effective

instruction delivery (EID; Mandal et. al., 2000), and corrective teaching interactions

(Wheeler & Richey, 2014). These topics were selected because they are considered

foundational classroom practices of PBIS programs (Simonsen, Freeman, Goodman et.

al., 2015). The slide presentation also included a video of a teacher actor modeling

delivery of BSP statements to a student actor. During this training the consultants provided handouts with information presented during training to the participants.

Motivaider®. During Tier 2 consultation, teachers used a Motivaider®. A Motivaider® is a small device that is worn in a pocket or on a belt and emits a vibration upon an established interval of time. In this study, vibration prompts cued teachers to deliver BSP statements.

Bug-in-the-ear device (BITE). During Tier 3 consultation, teachers and consultants wore a BITE. The BITE is an FM radio transmitter with a small microphone and a single headphone used to communicate a message in a discrete and private manner.

Laptop computer. During Tier 2 and Tier 3, the consultants used a laptop computer to provide teachers with PF. The laptop computer was used to display a graphical representation of teacher's rate of BSP and another graph with the level of occurrence of AEB and DB.

Social validity measures. Upon completion of targeted consultation and data collection, teacher participants completed the Consultation Acceptability Satisfaction Scale (CASS; Dufrene and Ware, 2018; see Appendix E). Teachers used the CASS to rate their perceptions of the appropriateness, acceptability, and effectiveness of the consultation services. The CASS is a 12-item rating scale, with items displayed in a six-point Likert scale ranging from *strongly disagree* (0) to *strongly agree* (5). High scores on the CASS are an indication of high perceptions of social validity of the consultation process. The CASS has been used in previous consultation research (Labrot, 2017; Labrot, Pascua, Dufrene, Brewer, & Goff, 2016; Taber, 2015), and internal consistency has been previously found to be $\alpha = 0.98$ (Dufrene and Ware, 2018).

In addition to the CASS, participating teachers completed the Behavior Intervention Rating Scale (BIRS; Elliott & Von Brock Treuting, 1991; see Appendix F) after completion of the study. The purpose of this scale is to measure teachers' perceptions of utility and acceptability of an intervention. The BIRS includes 24 items that are rated on a six-point Likert item scale. Ratings on the BIRS range from *strongly disagree* (1) to *strongly agree* (6) with higher scores indicating higher perceptions of social validity. A factor analysis by Elliott and Treuting (1991) yielded three different factors on the BIRS: Acceptability, Effectiveness, and Time of Effect. Alpha coefficients of .97, .92, and .87 were obtained for each factor, respectively, which supports the internal consistency of each of the factors. Moreover, an overall alpha coefficient of .97 was obtained for the entire instrument, supporting the overall internal consistency of the BIRS.

Dependent Measures

The primary dependent variable for this study was teachers' rate of BSP. In this study, BSP was defined as any time a teacher delivered a positive and labeled statement to a specific student (i.e., indicating the student's name) or the class to recognize and approve particular students' or whole class' engagement in an appropriate behavior. An example of BSP delivered to a student is "Gus, I like the way you are working quietly on your Math worksheet!" An example of a BSP delivered to the class is "Class, you are doing an outstanding job staying quiet." In addition to measuring teachers' BSP this study included measurement of teachers' rate of negative statements. Negative statements were defined as any teacher's verbal statement directed toward a student or

group of students that includes a reprimand (e.g., "Stop talking!") or redirection (e.g., "Get back in your seat.").

This study also included measurement of levels of class-wide AEB as a secondary dependent variable. The levels of class-wide DB were also measured. AEB was operationally defined as instances in which a student's attention is directed toward the teacher (e.g., looking at the teacher), the students verbally respond to a question from the teacher, or when a student is actively engaged with task materials (e.g., writing, eyes directed toward book or worksheet). DB was defined as any instance in which a student is out of seat (i.e., student's buttocks break contact with the seat), inappropriately vocalizes (e.g., student utterance that is not related to the academic task), plays with objects (e.g., manipulating objects that are not related to the task, manipulating task-relevant objects, but in a manner that is not consistent with the task), does not engage in academic task demands when expected, or displays inappropriate touching (e.g., touching another student when not task-related).

Data Collection Procedures

The researcher (i.e., Consultant 1) and Consultant 2 trained undergraduate students in psychology as well as graduate students in applied behavior analysis and school psychology to conduct observations. Observation training consisted of explaining the operational definitions for each of the dependent variables (i.e., BSP, AEB, and DB) and the observation procedures (explained below). Before initiating formal data collection, consultants and another observer conducted observations until 90% interobserver agreement (IOA) was obtained. Training in observation procedures occurred in the same setting where formal observations took place. All observers

obtained IOA scores above 90% after the first training session. After observers were trained, formal data collection began. The consultants for this study were the primary observers during baseline and Tier 2. Consultants did not conduct observations during Tier 3 as their attention was focused on providing *in-situ* training. Trained undergraduate and graduate students conducted Tier 3 observations instead.

This study used systematic direct observation (SDO) to measure the dependent variables. The observers conducted these observations at an unobtrusive location in the classroom (i.e., a location that did not interfere with the teacher's instruction or that did not result in a distraction to the students) during the time or activity that the teacher identified as most problematic. To measure the primary dependent variable, observers used an event recording procedure in which the frequency of BSP and negative statements per 10-second interval was recorded.

Observers measured the secondary dependent variables, AEB and DB, using a 10-second momentary time sampling (MTS) procedure during 20-minute observation sessions (simultaneous with coding for teachers' BSP and negative statements). MTS was selected, instead of partial and whole interval recordings, because it provides the least biased estimate of occurrence of behavior and its conservativeness regarding observer error (Fiske & Delmolino, 2012; Radley, O'Handley, & LaBrot, 2015). An audio recording cued observers at the beginning of each interval.

The individual fixed method (IFM; Briesch et. al., 2015) was used during class-wide observations to obtain a sample of the class' behavior. The IFM method allows for systematic and accurate class-wide observation (Dart, Radley, Briesch, Furlow, & Cavell, 2016) by rotating through different students being observed at each interval, based on

seating arrangement. That is, with IFM observers rotate through students seating from the leftmost row to the rightmost row, moving from the front to the back of the classroom, until all students are observed. Observers followed MTS procedures, thus the behavior of the student observed based on the IFM rotation was recorded at the beginning of each MTS interval. This procedure continued until the 20-minute observation session had been completed.

At the end of each observation session, the researcher collected datasheets and proceeded to calculate the rate of BSP by dividing the total number of BSP statements by the total observation time (i.e., 20-minutes). The percentage of AEB and DB was calculated separately. To calculate the percentage of occurrence of each of the secondary dependent variables the researcher divided the total number of intervals in which AEB and DB were scored by the total number of intervals (i.e., 120) and multiply the quotient by 100.

<div align="center">Experimental Design</div>

In light of the nature of consultation where not all teachers can be recruited and start intervention at the same time, this study used a nonconcurrent multiple baseline design (Cooper, Heron, & Heward, 2007; Christ, 2007) across Teachers 1, 2, and 3 and their respective classroom dyads during the Spring semester of the 2016-2017 school year. Due to issues of teacher recruitment, Teacher 4 participated starting the Fall semester of the 2017-2018 school year. Multiple baseline designs allow for demonstration of experimental control because the implementation of the independent variable is staggered across participants (Kazdin, 2011). Additionally, multiple baseline design does not require withdrawal of intervention, therefore, it was considered

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appropriate for this study because skills developed during consultation may not be reversed (Cooper, et. al., 2007). Moreover, according to Christ (2007) nonconcurrent multiple baseline designs" are sufficiently robust to contribute meaningfully to the scientific literature" (p. 457). This study included an evaluation of the effects of Tiered Behavioral Consultation (TBC) on teachers' delivery of BSP statements throughout a hierarchical continuum of tiers. Furthermore, this study assessed for maintenance of BSP statements in the training setting soon after meeting criteria for a targeted level of TBC.

All teachers that qualified for TBC-Tier 2 experienced the following phases: Tier 1 (i.e., baseline), Tier 2 consultation, and maintenance. Teachers that met criteria for TBC-Tier 3 experienced the following phases: Tier 1, Tier 2 consultation, Tier 3 consultation, and maintenance. Due to the end of the school year, Teacher 4 did not experience maintenance.

Data Analysis

Data were visually analyzed for level, trend, variability, immediacy of effect, consistency of effect, magnitude of effect, and overlap across conditions for all dependent variables (Horner, Swaminathan, Sugai, & Smolkowski, 2012). Although this study included multiple dependent variables, teachers' rate of BSP was considered the primary dependent variable for making phase change decisions. Pearson's R correlations were also conducted to determine the relationship between rates of BSP and AEB.

Phase change decisions occurred after completion of a minimum of five observation sessions (Kratochwill et al., 2010) for each phase. The following rules/criteria were used to make phase change decisions:

Rule 1: Baseline. Teachers met criteria for baseline data collection if two-weeks after the didactic training their record of ODRs was greater than the average ODRs for the school.

Rule 2: Tier 2 consultation. Teachers were referred to Tier 2 consultation if baseline data indicated that the teacher's average rate of BSP was less than 0.5 BSP/minute, or there was a decreasing trend falling below the minimum criterion of 0.5 BSP/minute.

Rule 2.1: Tier 2 consultation to maintenance. Teachers who successfully completed Tier 2 consultation (i.e., the rate of BSP was consistently at or above 0.5 BSP/minute or an increasing trend above the minimum criterion of 0.5 BSP/minute) were assessed for maintenance of rates of BSP and classroom behaviors soon after criteria for Tier 2 was met. Five data points were collected to assess maintenance for each dependent variable.

Rule 3: Tier 3 consultation. Similar to Rule 2, teachers were referred to Tier 3 consultation if during Tier 2, BSP trended downward below the 0.5 BSP/minute criteria, or if BSP was stable but averaged less than 0.5 BSP/minute.

Rule 3.1: Tier 3 consultation to maintenance. Similar to Rule 2.1, teachers who successfully completed Tier 3 consultation (i.e., the rate of BSP was consistently at or above 0.5 BSP/minute or an increasing trend above the minimum criterion of 0.5 BSP/minute) were assessed for maintenance of rates of BSP and classrooms behaviors soon after criteria for Tier 3 was met. Five data points were collected to assess maintenance for each dependent variable.

Effect Sizes

Data were also analyzed via an effect size measure, Tau-U (Parker, Vannest, Davis & Suaber, 2011). Tau-U is a non-parametric effect size measure that provides an estimate of the effect or magnitude of an independent variable by evaluating the percentage of non-overlap data between phases (e.g., Baseline versus Tier 1 and Baseline versus Tier 2). Since Tau-U accounts for both baseline trends and outliers, it represents an advantage over other non-overlap measures such as NAP (Parker & Vannest, 2009). According to Vannest & Ninci (2015) Tau-U scores of 0.20 or below are an indication of a small effect, 0.20 to 0.60 moderate effect, 0.60 to 0.80 large effect, and 0.80 or above a very large effect. For the purposes of this study, baseline data (i.e., Tier 1, for teacher and classroom behavior respectively) were compared to intervention phrases (i.e., Tier 2 and Tier 3) and maintenance, respectively.

<div align="center">Procedures</div>

Universal Teacher Training.

Universal teacher training was provided as a mandated school-wide training. Teachers 1, 2 and 3 participated in this training at the beginning of the Spring semester of the 2016-2017school year. Teacher 4 received universal training during the middle of the Fall semester of the 2017-2018 school year.

Both trainings were conducted using the same slide presentation and procedures. The universal training began with a consultant providing teachers with their school's ODR data. Next, the consultant provided didactic training for Tier 1 elements, which included information related to the empirical support for and procedural details for BSP. An overall discussion of EID (Mandal et. al., 2000) and corrective teaching interactions (Wheeler & Richey, 2014) was also presented, because these elements are part of the

foundational strategies that are part of PBIS. Teachers were also presented a video

demonstration of BSP and EID. The consultant also provided examples of Tier 1

procedures, requested demonstrations from the audience, and provided feedback for those

demonstrations. Moreover, the audience members were allowed to ask questions.

Finally, the consultant provided teachers with handouts that summarized the information

provided during the training.

Identification of teachers in need of consultation.

ODR data were not available for review by the researcher due to school policy in

regards to keeping teachers' performance confidential. However, two-weeks after the

universal training, the school counselor reviewed ODR data to identify teachers that

could qualify for participation in the study. Next, the school counselor provided

consultants with contact information for the teachers that participated in the school-wide

teacher training that had a record of more than the average ODRs for the school. A list of

ten teachers was provided, considered for baseline data collection (i.e., Rule 1: Baseline),

and invited for participation in the study. Out of the 10 invited teachers, five responses to

the invitation and three consented for participation.

Baseline after Tier 1.

Tier 1 data collection (i.e., Baseline) began after obtaining consent for

participation from the teachers that responded to the invitation of participation. The

starting date of data collection was variable because not all teachers consented for

participation at the same time. Therefore, baseline data collection initiated two-, three-,

and four-weeks after the universal training was conducted for Teachers 1, 2, and 3

respectively. As mentioned before, Teacher 4 baseline data collection was non-

concurrent and initiated two-weeks after the universal training. The researcher informed participating teachers that a 20-minute observation was going to be conducted in their classroom and were encouraged to continue using typical instruction and classroom management strategies. During Tier 1, observers did not interact with the teacher or students and did not provide the teacher or students with any feedback regarding their performance during the observation. After at least five observation sessions the data were visually inspected and determinations were made in regards to eligibility for Tier 2 consultation based on Rule 2. Teachers that did not meet such rule were offered consultation services outside the context of this study.

Tier 2 consultation and data collection.

Tier 2 consultation began with a meeting between the consultant and the teacher. During the meeting, the consultant discussed the number of ODRs by all schoolteachers in the school and noted they were recommended to TBC because of having a higher number of ODRs greater than the average for the school. Additionally, teachers were presented with the results from Tier 1 observations (i.e., rate of BSP vs. reprimands, and students AEB vs. DB) using two respective graphs displayed on a laptop computer.

Next, the consultant provided a brief didactic review for the procedures and techniques of BSP, a rationale for use of BSP, and a video of a teacher actor delivering BSP statements to an actor student (same video presented during universal training). The consultant then explained the use and purpose of the Motivaider®, which was set up to deliver prompts for BSP statements every minute. Teachers were encouraged to use the Motivaider® during the times identified as most problematic. Finally, questions were allowed as well as replay of the video modeling upon the teachers' request. After five

observation sessions, the consultant inspected the data, to determine whether teachers met

either Rule 2.1 (Maintenance) or Rule 3 (Tier 3).

Tier 3 consultation and data collection.

Tier 3 consultation consisted of *in situ* training for increasing teachers' rate of

BSP (Dufrene et. al., 2012). For all teachers, prior to implementation of *in situ* training,

the consultant conducted a brief PF meeting. During this meeting, the consultant

presented a rationale for using BSP in the classroom and updated graphs displaying BSP

and negative statements, and students' AEB and DB, for baseline and Tier 2 respectively.

The consultant praised any adherence to the intervention and provided corrective

feedback for lack thereof. Furthermore, the consultant demonstrated and role-played

with the teacher the use of the BITE device and finally questions were encouraged and

answered.

In situ training was conducted for a minimum of five sessions in the training

classroom. During *in situ* training, the consultant provided the teacher with a prompt to

deliver BSP once per minute during the 20-minute sessions. If the teacher delivered a

BSP statement before the consultant's prompt, then a prompt was not given for that

interval. Consultant's BSP prompts were specific; meaning, the consultant indicated

through the BITE the student's name or a characteristic of the student (e.g., color of the

piece of clothing) and a positive statement in regards to an appropriate behavior the

student was displaying (e.g., "Johnny, good job working on your assignment quietly!").

After five observation sessions, the consultant inspected the data to determine whether

the teacher met Rule 3.1.

Maintenance.

Maintenance begun right after the last consultation phase that was deemed successful. It occurred according to Rules 2.1 (i.e., Tier 2 to maintenance) and 3.1 (i.e., Tier 3 to maintenance). During maintenance, observation sessions were conducted using the same procedures as in Tier 1 baseline, thereby, the teachers did not receive any prompt instrument (i.e., Motivaider®) or any verbal or *in-situ* prompt (i.e., BITE) for praise. A minimum of five observation sessions were conducted at this phase.

Interobserver Agreement

IOA data were calculated for an average of 47.8% (range = 20%-80%) of the observation sessions for each dependent variable across each teacher and phase of this study. During baseline and Tier 2, IOA was calculated between one of the consultants and an independent observer. During Tier 3, a selected primary observer collected IOA with another independent trained observer. Consultants calculated IOA between observers for each dependent variable (i.e., rate of BSP and negative statements, and students' AEB and DB) using the following equation: number of agreements divided by the number of agreements plus disagreements and multiplied by 100 (Watkins & Pacheco, 2000). Retraining in observations procedures occurred if at any time during the period of observations IOA fell below 90%. This situation occurred once and retraining occurred

Teacher 1. During baseline, IOA data were collected for 40% of observation sessions. An agreement of 100% was obtained for Teacher 1's rate of BSP and reprimands, and a mean agreement of 95.95% (range = 97.5-94.4%) was obtained for classroom behavior (i.e., AEB and DB). During Tier 2, IOA data were collected for 25% of observation sessions. An agreement of 100% was obtained for Teacher 1's rate of

BSP and reprimands, and a mean agreement of 97.50% (range = 96.70-98.3%) was obtained for classroom behavior. During Tier 3, IOA data were collected for 33% of observation sessions. The agreement for Teachers' 1 rate of BSP and reprimands during Tier 3 was 100% and the mean agreement for classroom behavior during this phase was 95.3%. During maintenance, IOA data were collected for 60% of observation sessions. The mean agreement for Teacher 1's rate of BSP and reprimands was 98% (range = 85.7-100%), whereas, the mean agreement for classroom behavior was 97.7% (range = 96.7-98.3%).

　　　　Teacher 2. During baseline, IOA data were collected for 37.5% of observation sessions, with a mean agreement of 99.73% (range = 99.2-100%) for rate of BSP and reprimands, and a mean agreement of 98.6% (range = 97.5-100%) for AEB and DB. During Tier 2, IOA data were collected for 57.1% of observation sessions. A mean agreement IOA of 97.7% (range = 95.5-99.2%) was obtained for the rate of BSP and reprimands, and a mean agreement of 95.6% (range = 94.2-97.5%) was obtained for classroom behavior. During Tier 3, IOA data were collected for 20% of the observation sessions. The rate of BSP and reprimands during this training had a mean agreement of 97.6% and classroom behavior had a mean agreement of 98.8%. In maintenance, IOA data were collected for 66% of observation sessions. Teacher 2's rate of BSP and reprimands had a mean agreement of 99% (range = 98.8-100%) and classroom behavior a mean agreement of 94.8% (range = 90.5-99.2%) during this phase.

　　　　Teacher 3. During baseline, IOA data were collected for 36% of observation sessions. A mean agreement of 99.63% (range = 99-100%) was obtained for Teacher 3's rate of BSP and reprimands, and a mean agreement of 96.9% (range = 95.8-100%) was

obtained for classroom behavior. During Tier 2, IOA data were collected during 50% of observation sessions. A mean agreement of 98.6% (range = 95-100%) was obtained for Teacher 3's rate of BSP and reprimands, and a mean agreement of 97.50% (range = 96.70-98.3%) was obtained for classroom behavior. Teacher 3 did not require Tier 3 training based on his response to Tier 2 consultation. Thus, during maintenance, IOA data were collected for 60% of observation sessions. The mean agreement for Teacher 3's rate of BSP and reprimands was 99.8% (range: 99.2-100%) and the mean agreement for classroom behavior was 94.6% (range: 94.2-95%) during maintenance.

Teacher 4. During baseline, IOA was collected for 26.7% of observation sessions. A mean agreement of 100% was obtained for Teacher 4's rate of BSP and reprimands, and a mean agreement of 98.11% (range = 95.80-99.17%) was obtained for classroom behavior (i.e., AEB and DB). During Tier 2, IOA was collected during 40% of observation sessions. A mean agreement of 98.70% was obtained for Teacher 4's rate of BSP and reprimands, and a mean agreement of 90.80% (range = 90-91.6%) was obtained for classroom behavior. During Tier 3, IOA was collected for 80% of observation sessions. The mean agreement for Teacher 4's BSP and reprimands during Tier 3 was 95.9%. The mean agreement for classroom behavior during this phase was 91.79% (range = 86.6-99.16%). Due to IOA scores falling below 90% on two observation sessions, observers were retrained in observation procedures. When Tier 3 consultation was re-implemented for Teacher 4, IOA was calculated for 40% of observation sessions. The mean agreement for Teacher 4's behavior was 98.5% (range = 95.8-99.7%). The mean agreement for classroom behavior was 91.65% (range = 90.8-92.5%).

Although percentage of IOA is considered to be convenient, simple, and easy to interpret, it does not account for coincidental observer agreements (i.e., chance). For this reason, in order to account for agreements that occurred by chance on the secondary dependent variables (i.e., AEB and DB), Kappa coefficient of agreement was calculated as an additional index of IOA (Watkins & Pacheco, 2000). This study used the formula by Uebersax (1982) to calculate Kappa coefficient. According to criteria by Viera and Garrett (2005), Kappa values below 0 suggest *less than chance* agreements, values between .01 and .20 suggest *slight* agreements, values between .21 and .40 suggest *fair* agreements, values between .41 and .60 suggest *moderate* agreements, values between .61 and .80 suggest *substantial* agreement and, values between .81 and .99 suggest *almost perfect* agreement. The mean Kappa value for the classrooms of Teacher 1, 2, and 3 were 0.91 (range = 0.82-0.97), 0.90 (range = 0.83-0.95), and 0.93 (range = 0.84-1.00), respectively. These values suggest almost perfect agreement across AEB and DB. The mean Kappa value for Teacher 4 was 0.84 which suggests almost perfect agreement for AEB and DB.

<div align="center">Procedural Integrity and Treatment Integrity</div>

Procedural integrity was assessed and calculated for all experimental procedures using checklists. For all phases of this study, procedural integrity was calculated by dividing the total number of steps completed divided by the total number of steps available, multiplied by 100. Due to the nature of this study not all procedures occurred for all participants; therefore, procedural integrity was calculated for all consultation procedures which included teacher meetings and observation sessions. IOA was calculated for 100% of teacher meetings with consultants (i.e., Tier 1 training, Tier 2

meetings, and Tier 3 meetings). Furthermore, procedural integrity for observation sessions was conducted for 40% of observations conducted in Teacher 1 classroom, 42% of observations conducted in Teacher 2 classroom, 37.5% of observations conducted in Teacher 3 classroom, and 40% of observations conducted in Teacher 4 classroom.

Universal Teacher Training. The checklist for Tier 1 universal training (Appendix G) included items related to the content of the slide presentation (i.e., empirical support for and procedural details for BSP and EID). Also, this checklist assessed whether the consultant requested demonstrations, gave feedback, and encouraged questions from the audience. Procedural integrity across the two universal trainings was 100% with an agreement of 100% across all training sessions.

Tier 1 Baseline. The checklist for baseline phase observations (Appendix H) included items related to who was observing and the behaviors of the observers. That is, whether the researcher was an observer and where the observers were located in the classroom (e.g., in an unobtrusive location of the classroom). Additionally, this checklist assessed whether or not observers provided feedback to the teachers or students. Procedural integrity across all baseline phase observations was 100% for all participants in this study with an agreement of 100% across all participants in this study.

Tier 2. Appendix I shows the checklist that was used during Tier 2 consultation initial meeting (Phase B). This checklist includes items regarding the consultant providing a rationale for provision of Tier 2 consultation including presentation of graphs displaying teacher's baseline rates of BSP vs. reprimands, and classroom behavior. Additionally, Appendix I includes items regarding consultant's explanation of the use of the Motivaider®, and presentation of video modeling. Another checklist, Appendix J,

was used to assess integrity of Tier 2 observations. Procedural integrity across all Tier 2

meetings with teachers was 100% with an agreement of 100% for all participants.

Procedural integrity across all Tier 2 observations was 100% for Teachers 1, 2 and 4.

Procedural integrity for Teacher 3 was 97% due to not using the Motivaider® on one

observation session. A 100% agreement was obtained for all Tier 2 observations.

Tier 3. Appendix K presents the procedural integrity checklist used for teachers

that met Tier 3 consultation criteria. During Tier 3 meetings the consultant provided PF

of Tier 2 performance and a rationale for Tier 3 consultation. The procedural integrity

checklist included items inquiring whether the consultant provided praise and corrective

feedback to teachers' adherence to BSP procedures in Tier 2, presentation of updated

graphs, and a rationale and explanation of Tier 3 training procedures. Appendix L is the

procedural integrity checklist the consultant used during *in situ* training. This checklist

includes items related to the frequency of the prompts (FR1), and the structure of such

prompts (specific). Finally, Appendix M included the checklist that assessed observer's

integrity to Tier 3 observation procedures. This checklist contains similar items to Tier 2

observation checklist but included items related to the use of the BITE. Procedural

integrity across all Tier 3 teacher meetings was 100%, with an IOA of 100% for all

participants. Procedural integrity for *in*-situ training was 100%, with an IOA of 100%.

In regards to Tier 3 observation sessions, procedural integrity was 100% for all teacher

participants and IOA was also 100%. Tier 3 re-implementation for Teacher 4 used the

same checklists as Tier 3. Procedural integrity and IOA for both *in situ* training and Tier

3 observation sessions was 100%, respectively.

Maintenance. Follow up observations were conducted in the training setting of those teachers that successfully completed either Tier 2 or 3. Teacher 4's maintenance was not assessed due to the end of the school year. Appendix N presents the checklist used for conducting maintenance observations. These procedures were equal to those used during baseline. Procedural integrity across all maintenance observation sessions was 100% for Teachers 1, 2, and 3. The mean IOA for all observation sessions was 100% for Teacher 1, 2, and 3.

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CHAPTER IV – RESULTS

Results for the primary dependent variable (i.e., teachers' rate of BSP and reprimands) are presented in Figure 1. Results for the secondary dependent variables (i.e., classroom's AEB and DB) are presented in Figure 2. This chapter summarizes the effects of Tiered Consultation on these variables across all conditions.

Visual Analysis

Teacher 1

During baseline, Teacher 1 delivered low rates of BSP ($M = 0.04$, range = 0-0.15), and a higher rate of reprimands ($M = 0.42$, range = 0.05-0.85). It was also observed that from the third through the fifth session, the teacher did not provide any BSP, whereas, the number of reprimands remained variable. AEB ($M = 48.8\%$; range = 41.7-58.3%) and DB ($M = 48.0\%$; range = 30.0-58.3%) in the classroom were both similar in level and trend.

During Tier 2, there was an immediate increase relative to baseline in rate of BSP/minute ($M = 0.38$, range = 0.00-0.85). During the first session BSP reached a rate of 0.6 BSP/minute and the third session BSP reached a rate of 0.85 BSP/minute. In spite of the latter improvements, there was variability across sessions and a decreasing trend below the prescribed criterion of 0.5 BSP/minute. The rate of reprimands ($M = 0.64$; range = 0.05-1.50) achieved values higher than baseline levels and the trend was variable across sessions. The mean percentage of AEB and DB during Tier 2 consultation was 44.8% (range = 31.7-56.7%) and 54.9% (range = 43.3-68.3%), respectively, with a trend

and level commensurate to baseline. Although a slight increase in trend of AEB was

observed at the beginning of Tier 2 with concomitant slight decreasing trend in DB;
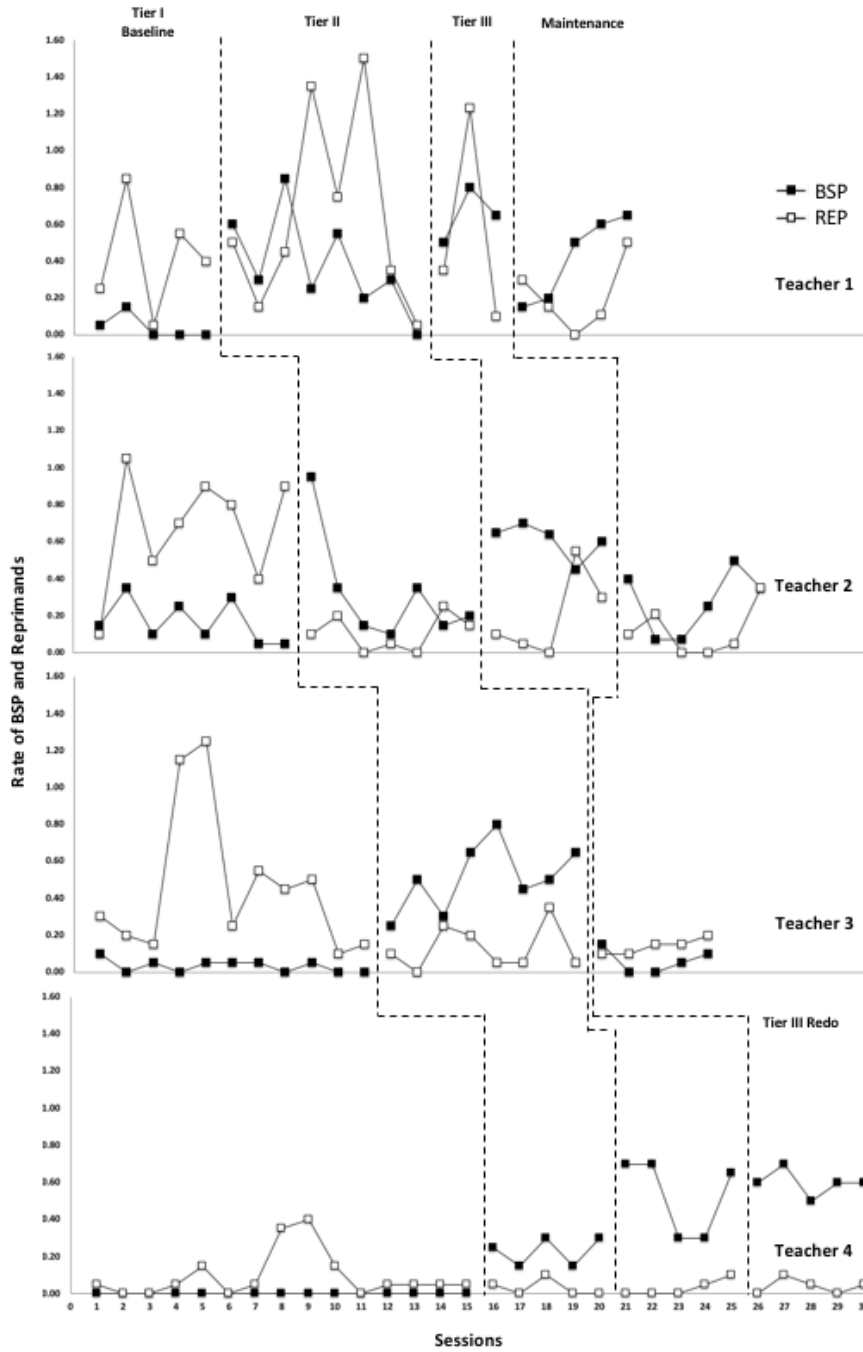
Figure 1. Teacher's rate of BSP and reprimands
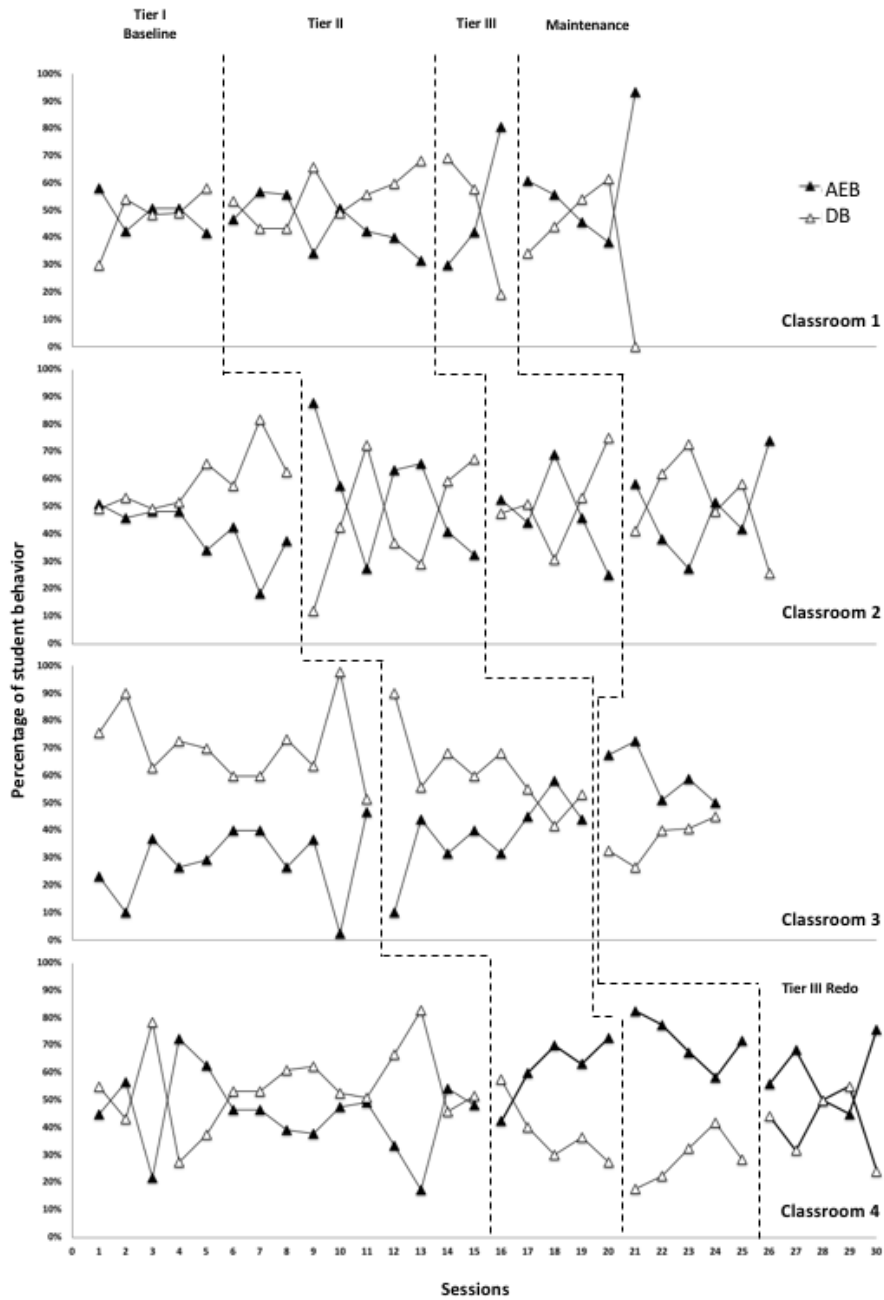
Figure 2. Percentage of AEB and DB

overall, the trend and level of classroom behavior data remained consistent with baseline

levels across this phase.

Teacher 3 participated in three sessions of Tier 3 consultation. Due to personal situations the teacher was not present in the school during the following two days of training and for such reason only three data points for Tier 3 were collected. During Tier 3 consultation, the mean rate of BSP was 0.65 (range = 0.50-0.80) which represents an increase in level to the previous Tiers and was at or above the prescribed criterion of 0.5 BSP/minute. The mean rate of reprimands was 0.56 (range = 0.10-1.23) with a variable trend and levels similar to Tier 2 consultation. The mean percentage of AEB during Tier 3 was 50.9% (range = 30.0-80.8%) with a sharp increasing trend that occurred concurrently with improvements in teacher's rate of BSP; conversely, the mean percentage of DB was 48.8% (range = 19.2-69.2%) with a steep decreasing trend.

During maintenance, Teacher 1 provided BSP with a mean rate 0.42 (range = 0.15-0.65). A sudden decrease in rate of BSP relative to Tier 2 and Tier 3 was observed at the beginning of maintenance; however, improvements in the rate of BSP consistent with highest levels achieved during Tier 2 and Tier 3 were observed during the last three sessions. The mean rate of reprimands was 0.21 (range = 0.00-0.50), which was the lowest rate achieved across all Tiers. The mean percentage of AEB and DB during maintenance was 58.8% (range = 38.3-93.3%) and 38.9% (range = 0.1-61.7%), respectively. There was an immediate decrease in level of AEB when compared to the previous phase (Tier 3), which was followed by a decreasing trend and a drastic change in level for the last datum. This is not consistent to other participants of this study where improvements in rates of BSP produced improvements in levels of AEB. Additionally, despite overall lower mean rates of reprimands during maintenance and an increase in the

level of rate of BSP, DB continued at an increasing trend until the last datum, where a drastic decrease in level was recorded.

Teacher 2

During baseline, the rate of BSP for Teacher 2 was 0.17 (range = 0.05-0.35) and the mean rate of reprimands was 0.67 (range = 0.10-1.05). The overall trend for BSP was variable at lower rates, while the trend for reprimands was very variable and at higher rates. The mean percentage of students' AEB was 40.7% (range = 18.3-50.8%) with a variable but decreasing trend. The mean percentage of students' DB was 58.9% (range = 49.2-81.7%) with a variable but increasing trend.

During Tier 2, the mean rate of BSP was 0.32 (range = 0.10-0.95) with a sharp increase in rate followed by a decreasing trend to rates similar to baseline. The level of reprimands (M = 0.11; range = 0.00-0.25) at the beginning of Tier 2 sharply decreased when compared to baseline levels and remained variable but consistently below baseline. The mean percentage of AEB during Tier 2 was 53.6% (range = 27.5-88.0%) and the mean percentage for DB was 45.7% (range = 12.0-72.5%). Although a drastic change in the level for each variable was observed in the beginning of the phase, the level and trend of these data were variable across all sessions.

During Tier 3 the mean rate of BSP was 0.61 (range = 0.45-0.70). There was an immediate increase in rate that overall remained above the prescribed rate of 0.5 BSP/minute across this phase. The mean rate of reprimands was 0.20 (range = 0.00-0.55) with a decreasing trend on the first three sessions, followed by a sudden increase during the last two sessions that was consistent with an increasing trend in DB. The mean

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percentage of AEB and DB was 47.3% (range = 25.0-69.0%) and 51.5% (range = 30.9-75.0%), respectively. The levels of these data were consistent to Tier 2.

During maintenance, Teacher 2's mean rate of BSP was 0.27 (range = 0.07-0.50) with mean rate of reprimands 0.12 (range = 0.00-0.35). Although Teacher 2 achieved the 0.5 BSP/minute criterion during one of the sessions, there was a decrease in rate that was consistent with baseline rates of BSP. The rate of reprimands remained at low levels, consistent with Tier 2 and Tier 3; however, an increase in level was noted at the end of maintenance. The mean percentage of AEB and DB of the classroom was 48.6% (range = 27.4-74.2%) and 51.4% (range = 25.8-72.6%), respectively. An immediate increase in level is noted for both AEB and DB at the beginning of maintenance, followed by a decreasing trend and variable trend consistent with all other consultation phases. It was noted that changes in the data for the classroom were consistent with changes in the rates of reprimands and BSP.

Teacher 3

During baseline, the mean rate of BSP for Teacher 3 was 0.03 (range = 0.00-0.10) and the mean rate of reprimands was 0.46 (range = 0.10-1.25). The rate of BSP was consistently at very low levels, while the trend for reprimands was variable and at higher rates. The mean percentage of students' AEB was 28.9% (range = 2.3-46.6%) with a substantially lower level than DB. The mean percentage of DB was 70.7% (range = 51.6-97.7%).

During Tier 2, the mean rate of BSP for Teacher 3 was 0.51 (range = 0.25-0.80) which represents an immediate increase in rate when compared to baseline. There was a slightly variable but increasing trend throughout this consultation phase that achieved the

55

0.5 BSP/minute criterion. Although variable, the mean rate of reprimands decreased substantially relative to the baseline rate and was 0.13 (range = 0.00-0.35). The mean percentage of AEB was 38.1% (range = 10.0-58.3%), with an increasing trend across sessions; and inversely the mean percentage of DB ($M = 61.6\%$; range = 41.6-90.0%) showed a decreasing trend. Improvements in classroom behavior were evident as levels of AEB achieved higher levels than DB during the final sessions, when compared to baseline. These improvements were also concurrent with the teacher's increased rate of BSP.

Given that the mean rate of BSP during Tier 2 was above the prescribed criterion of 0.5, maintenance followed. During maintenance, the rates of BSP drastically decreased to rates similar to baseline ($M= 0.06$; range = 0.00-0.15). The rate of reprimands remained low as observed in Tier 2 ($M= 0.14$; range = 0.10-0.20), but with a slightly increasing trend. Despite a sudden increase in the level of AEB ($M = 60\%$; range = 50.0-72.5%), a decreasing and slightly variable trend followed. Levels of AEB, however, remained higher than DB ($M = 37.0\%$; range = 26.7%-45.2%) and above baseline

Teacher 4

During baseline, Teacher 4 did not deliver any BSP statements and the mean rate of reprimands was 0.09 (range = 0.00-0.40) with a variable trend. The mean percentage of AEB ($M= 45.2\%$; range = 17.3-72.5%) was lower than the mean percentage of DB ($M= 54.8\%$; range = 27.5-82.7%); however, the data were variable.

During Tier 2, Teacher 4 displayed an immediate increase in rate of BSP relative to baseline, with a mean BSP rate of 0.23 (range = 0.15-0.30). Despite this immediate

increase in rate that remained above baseline levels throughout this phase, the rates of

BSP remained below the prescribed criterion of 0.5 BSP/minute. The level of reprimands

(*M*=0.03; range = 0.00-0.10) slightly decreased from the rate observed in baseline;

however, some overlap was observed that was consistent with baseline rates. The mean

percentage of AEB was 61.7% (range = 42.5-72.6%) with an increasing trend. Although

there was no immediate change in the level of AEB at the beginning of Tier 2, an

increasing trend was observed. This increasing trend is consistent with improvements in

rate of BSP across Tier 2. Consistent with improvements in AEB, DB (*M* = 38.3%;

range = 27.4-57.5%) displays a decreasing and slightly variable trend.

During Tier 3, the mean rate of BSP was 0.53 (range = 0.30-0.70). An immediate

increase in the rate of BSP was observed relative to both baseline and Tier 2; and

although rate of BSP was not consistent across sessions, the criterion of 0.5 BSP/minute

was met. The rate of reprimands was similar to rate observed during Tier 2 (*M*=0.03;

range = 0.00-0.10). During Tier 3, the mean percentage of AEB was 71.5% (range =

58.3-82.5%), which represents an immediate increase in level when compared to baseline

and Tier 2; however, an overall decreasing trend was observed, except for a slight

increase in level for the last datum. There was a substantial decrease in the level of DB

(*M* = 28.5%; range = 17.5-41.7%) at the beginning of this phase; however, a decreasing

trend was observed, except for the second-to-last datum were a slight increase in level is

noted.

A reimplementation of Tier 3 for Teacher 4 was performed to improve rates of

BSP. Despite the consultant providing direct prompts through BITE in the first

implementation of Tier 3, there were two sessions where Teacher 4's rate of BSP fell

below the 0.5 BSP/minute criterion. During reimplementation of Tier 3 the mean rate of

BSP was 0.60 (range = 0.50-0.70) and the mean rate of reprimands was 0.04 (range =

0.00-0.10). The rate of BSP was consistent with the highest levels achieved during the

first implementation of Tier 3, but during Tier 3 reimplementation the rate of BSP

maintained at or above the prescribed criterion of 0.5 BSP/minute. Additionally, the rate

of reprimands remained consistently low as observed during the previous consultation

phases. The mean percentage of AEB and DB was 59.0% (range = 45.0-75.8%) and

41.0% (range = 24.2-55.0%), respectively. A variable trend for classroom behavior was

observed, however, AEB levels were overall higher than levels of DB and higher than

baseline.

Due to the end of the school year, maintenance data for Teacher 4 could not be

collected.

<div align="center">Correlation Analysis</div>

From visual analysis, relationships between rates of BSP and student AEB could

not be clearly determined. Therefore, Pearson's r correlations were conducted for teacher

and tier of consultation to assess the strength of the relationship between teachers' rates

of BSP and students AEB. Table 1 displays the correlation matrix for rates of BSP and

AEB by teacher and Tier of consultation.

Overall, during baseline (i.e., after Tier 1 training) there was a weak correlation

between rates of BSP and student AEB for Teachers 1, 3, and 4. For Teacher 2 there was

a moderate correlation between BSP and AEB ($r = 0.52$; $p = 0.18$).

During Tier 2, there was a statistically significant positive correlation for Teacher 1 ($r = 0.73$; p = 0.04) and Teacher 2 ($r = 0.77$; p = 0.04), which suggests a strong relationship between improvements in rates of BSP and students AEB. A moderate, positive correlation for Teacher 3 ($r = 0.40$; p = 0.33), and a small, negative correlation for Teacher 4 ($r = 0.27$; p = 0.66) was found.   For three of the teachers, AEB increased as BSP increased during Tier 2; however, this was not the case for Teacher 4 where a negative relationship was seen between the two variables.

During Tier 3, across teachers, a positive correlation was seen between AEB and BSP; however, the correlations for all teachers were in the weak to moderate range with p-values greater than 0.05. When considering maintenance, positive correlations were again obtained between AEB and BSP, however, the strength of the relationship was weak for Teacher 1 and 3, and moderate for Teacher 2, with p-values greater than 0.05.

Correlation analysis yielded results similar to visual analysis. Overall, the correlations varied depending upon the teacher and tier examined.   With the exception of Teachers 1 and 2 during Tier 2, no statistically significant correlations between rates of BSP and student AEB were obtained throughout the consultation process. During baseline, the strength of the correlation between AEB and BSP was the most variable (range = -0.27 to 0.52). Tier 2 appeared to demonstrate the strongest relationship between the two variables. Teacher 1 and Teacher 2 showed the most variability across tiers, whereas Teacher 3 and 4 showed the weakest correlations.

Table 1. *Pearson R correlation matrix*

	Rates of BSP and Student AEB			
	Tier 1	**Tier 2**	**Tier 3**	**Maintenance**
Teacher 1	-0.27	0.52	0.30	0.00
Teacher 2	0.73*	0.77*	0.40	0.27
Teacher 3	0.23	0.17	-	0.50
Teacher 4	0.17	0.55	0.02	-

Note: $*p < 0.05$

Effect Sizes

Table 2 displays Tau-U effect size calculations for teacher participants' rate of BSP and reprimands by Tier (i.e., consultation level). Table 3 displays Tau-U effect size calculations for each classroom's AEB and DB by Tier. Results indicate that Tier 2 and Tier 3 training (including Tier 3 reimplementation) had moderate to very large intervention effect on rates of BSP for all teacher participants. In regards to reprimands, Tier 2 had very large intervention effects for Teacher 2, but small to medium intervention effects for all other teachers. Tier 3, on the other side, had medium to very large intervention effects on rates of reprimands for all teachers. In regards to classroom behavior, results indicate Tier 2 had medium to very large intervention effects on classrooms' AEB and DB. Tier 3, including, Tier 3 reimplementation, had medium to very large intervention effects on AEB and DB, except for Classroom 1 (Teacher 1) where a small intervention effect on both AEB and DB was obtained.

Table 2. *Tau-U Effect Size for Primary Dependent Variable: BSP and Reprimands*

	BSP				Reprimands			
	Tier2	Tier 3	Tier 3	Maint.	Tier2	Tier 3	Tier 3	Maint.
Teacher 1	0.82**	0.52	-	0.37	0.18	0.07	-	-0.44
Teacher 2	0.42	1**	-	0.38	-0.88**	-0.78*	-	-0.90**
Teacher 3	1**	-	-	0.24	-0.67*	-	-	-0.69**
Teacher 4	1**	1**	1**	-	-0.53	-0.53	-0.41	-

Note: ** is Very Lange Effect Size and * is Large Effect Size.

Table 3. *Tau-U Effect Size for Secondary Dependent Variable: AEB and DB*

	AEB				DB			
	Tier2	Tier 3	Tier 3	Maint.	Tier2	Tier 3	Tier 3	Maint.
Classroom 1	-0.30	-0.20	-	0.28	0.35	0.20	-	-0.16
Classroom 2	0.32	0.28	-	0.29	-0.32	-0.38	-	-0.29
Classroom 3	0.44	-	-	1**	-0.44	-	-	-1**
Classroom 4	0.67*	0.92**	0.61*	-	-0.60*	-0.89**	0.61*	-

Note: ** is Very Lange Effect Size and * is Large Effect Size.

Social Validity

All teachers completed the CASS at the conclusion of data collection. Mean

ratings of 4.77, 4.77, 4.54, and 3.85 were indicated by Teacher 1, 2, 3, and 4,

respectively. Overall, the teachers rated consultation procedures as socially valid. A

mean rating of 3.75 was obtained for item 10 (i.e., The consultation process was

completed in a timely fashion). This item was individually assessed as most teachers,

anecdotally, reported concerns to consultants about the consultation process taking a

considerable amount of time to be completed.

All teachers completed the BIRS at the conclusion of data collection. The mean

BIRS score for all teachers was 5.03, which indicates that overall teachers agreed that

BSP is a socially valid procedure to be used in their classroom. Teacher 1's overall

ratings on the BIRS was 4.67, which indicates he slightly agreed BSP is a socially valid

procedure. For the individual BRS factors, Teacher 1 obtained scores of 4.73, 4.43 and

5.00 for the acceptability, effectiveness and time of effectiveness, respectively. Teacher

2's overall rating on the BIRS was 5.25, which indicates he agreed BSP is a socially valid

procedure. For the individual BIRS factors, Teacher 2 obtained scores of 5.53, 4.71 and

5.00 for the acceptability, effectiveness and time of effectiveness, respectively. Teacher

3's overall ratings on the BIRS was 5.21, which indicates he agreed BSP is a socially

valid procedure. For the individual BIRS factors, Teacher 3 obtained scores of 5.20, 5.14

and 5.50 for the acceptability, effectiveness and time of effectiveness, respectively.

Teacher 4's overall ratings on the BIRS was 4.44, which indicates she agreed BSP is a

socially valid procedure. For the individual BRS factors, Teacher 4 obtained scores of

4.80, 4.00, and 3.25 for the acceptability, effectiveness and time of effectiveness,

respectively.

CHAPTER V – DISCUSSION

School consultation represents one of the primary tasks of school psychologists, and practitioners often apply a BC approach due to its effectiveness (Sanetti & Kratochwill, 2008; Sterling-Turner et. al., 2002; Newman et al., 2015). BC seeks to improve consultees' understanding of the environmental causes of problem behavior and increases their skills with various techniques to address different problems (e.g., classroom management, behavioral concerns). Previous studies have shown that teachers are often ill prepared to manage disruptive behaviors in their classrooms due to lack of training in appropriate classroom management strategies (Tillery et. al., 2010). Due to the relationship between high rates of classroom problem behavior and poor student outcomes (Luiselli, Putnam, Handler, & Feinberg, 2010; Vitaro, Brendgen, Larose, & Tremblay, 2005), schools may allocate annual funding for teacher trainings, typically provided as workshops or school-wide professional development, to address these skill deficits. Although some teachers implement what they learn in such trainings with integrity and consistency (Stormont et. al., 2007), this is not the case for all teachers (DiGennaro et. al., 2005; Gulamhussein, 2013; Noell et. al., 2000). As a result, a tiered approach to training and consultation can be applied to ensure that all teachers receive the supports they need to be successful at classroom management. In fact, a growing body of literature exploring the tiered consultation approach demonstrates that not all teachers are in need of the most intensive forms of consultation techniques (e.g., Myers et. al., 2011; O'Handley, et. al., 2018; Simonsen et. al., 2013). In light of evidence indicating that RtI and multi-tiered systems of support (MTSS) are effective at the universal, secondary, and tertiary prevention levels for improving students' behavioral and academic skills, a tiered

approach to consultation has also been proposed and studied for teacher consultation

(e.g., Myers et. al., 2011; O'Handley et. al., in 2018; Simonsen et.al., 2013).

The purpose of this study was to expand the existing tiered consultation literature

by providing teachers with training on BSP throughout a continuum of three levels of

consultation that differed in terms of the level of support provided to the teacher: Tier 1

(school-wide didactic with skills training), Tier 2 (skills training, use of Motivaider® and

weekly performance feedback), and Tier 3 (skills training, *in-situ* training, and weekly

performance feedback). This study is the first of its kind in two primary ways: (1) it

applies a tiered consultation approach to high school teachers experiencing substantial

levels of disruptive behaviors in their classrooms, and (2) it obtains teacher's perceptions

of social validity of the tiered consultation approach. The results of this study are

discussed in terms of research questions. A discussion of the limitations and future

directions, and implications for future practice follows.

Question 1

The first research question addressed the effectiveness of a targeted consultation

meeting (Tier 2 training), tactile prompting tool (i.e., Motivaider®), and weekly

performance feedback to increase the rate of BSP for teachers that failed to respond to

Tier 1.

Overall, Tier 2 teacher training had medium to large effects in teachers' rate of

BSP. Additionally, visual analysis of the data indicated all teacher participants increased

their rate of BSP to levels above baseline; however, teacher outcomes were inconsistent,

lower than 0.5 BSP/minute, or not maintained. Unlike O'Handley and colleagues (2018),

where all participants increased rates of BSP above 0.5 BSP/minute with Tier 2, all

teachers in this study, except for Teacher 3, required additional levels of support (i.e.,

Tier 3 or Tier 3 reimplementation) in order to increase and maintain rates of BSP above

the prescribed criterion. This finding might be related to unknown teacher variables.

Another assumption could be the frequency of PF meetings.   PF is an important strategy

for improving and sustaining integrity of interventions overall (Noell et. al., 2005; Coffee

& Kratochwill, 2013). The frequency in which these meetings are provided may have

played a role in teachers' response to consultation at the lower levels of support (i.e., Tier

2). In O'Handley's and colleagues (2018) PF meetings occurred twice for each teacher

and during treatment implementation, whereas in Myers and colleagues (2011) and the

present study, PF meetings during Tier 2 consultation occurred at the end of five days of

data collection and reactively, based on deteriorations in treatment implementation.

Results of this study were similar to Myers and colleagues (2011) where three out

of the four teachers required additional levels of support by either experiencing Tier 2 re-

implementation or Tier 3. Additionally, the effects of Tier 2 consultation in this study

were consistent with other studies where the Motivaider® was used as a tactile prompt

for increasing higher rates of BSP. Like in prior studies (e.g., Cavell, 2017; Haydon and

Musti-Rao, 2011), teacher participants' rate of praise improved above baseline levels;

however, this level did not remain stable or maintain above 0.5 BSP/minute.

Question 2

The second research question addressed the effectiveness of a targeted

consultation meeting, *in situ* training, plus weekly PF (i.e., Tier 3) with teachers that fail

to respond to Tier 2.

Large to very large effect sizes were obtained for Tier 3; suggesting that overall, all teachers that received Tier 3 training increased their rate of BSP above baseline. Additionally, from a visual analysis of the data, all teachers produced rates of BSP above baseline and above levels achieved during Tier 2 training. This study provides additional support for *in situ* training as a training technique to improve BSP (e.g., Dufrene et.al. 2012; Dufrene et.al. 2014; LaBrot et. al., 2015; Taber, 2014) when teachers are prompted every minute throughout a 20-minute training session. Improvements in rates of BSP may have been related to overtraining. This is consistent with Coffee and Kratochwill (2013) and Myers and colleagues (2011). The former used "booster sessions" (p. 14) to address treatment inconsistency in some participants, and the latter reimplemented Tier 2 consultation on teachers that successfully completed Tier 3. These studies support the effect of overtraining and the fact that teachers have individual and unique ways in which they will respond to consultation, providing another level of support for the use of TBC.

Given the nature of *in situ* training, where a consultee receives direct prompts (e.g., deliver praise) from a consultant, adherence to the treatment protocol can be expected. However, in this study Teacher 1 and Teacher 4 displayed variability in their use of BSP or a decrease in trend and level below the prescribed criterion of 0.5 BSP/minute during *in situ* training. Classroom situations may have played a role in this situation. On the days with low treatment integrity, student altercations (i.e., verbal and physical fights) occurred in all treatment classrooms, which may have impacted the teachers' ability to implement the intervention as designed. Data-collection during these days continued according to the observation protocol unless the teacher had stepped out

of the classroom. Re-implementation of Tier 3, however, for Teacher 4 resulted in favorable improvements.

Question 3

The third research question addressed the concomitant effects of teachers' rate of BSP on class-wide level of AEB and DB.

The use of BSP had varying effects on classroom behavior. Although Classrooms 1 and 2 had small to medium effects in AEB and DB, Classrooms 3 and 4 had large to very large effects. When visually inspecting the data, conclusions about effectiveness of tiered consultation on classroom behavior for Teachers 1 and 2 cannot be made as overall no specific trend in the data of classroom behavior remained across training phases. Additionally, the rates of DB in Classrooms 1 and 2 were substantially higher than previous BSP studies (e.g., O'Handley et. al., 2018; Taber, 2014; LaBrot, 2017) and other studies that showed Tier consultation for BSP to be effective (e.g., O'Handley et. al., 2018). Classrooms 1 and 2 likely required additional classroom management support (e.g., good behavior game; Tingstrom et. al., 2006) due to the magnitude of the DB displayed in the classroom. This study showed results that are comparable to Taber (2014) in which high school teachers were trained in delivery of BSP to improve DB with *in situ* training; however, the reductions in DB were not substantial when compared to other studies exploring the use of BSP in younger populations (Labrot, 2017). The results of this study were consistent with Dufrene and colleagues (2012) where for in some teachers' classrooms DB remained at about the same levels as baseline across the study.

When looking at Classrooms 3 and 4, there were improvements in AEB and reductions in DB that were consistent with improvements in BSP across all training phases. Results of classroom behavior can be explained relative to Dufrene and colleagues (2012). It is hypothesized that the use of this strategy seemed to be positively reinforced for Teachers 3 and 4 by overall improvements in classroom's AEB. In spite of altercations and resulting variability, Teacher 4 improvements in classroom behavior can be explained with ongoing motivation for treatment implementation and her perceptions of effectiveness of the intervention, which is relative to factors identified by Gresham and Kendell (1987) and Sanetti and Kratochwill (2009).

Question 4

The fourth research question addressed the effectiveness of tiered consultation in maintaining improvements in levels of BSP after consultation was terminated.

Relative to other *in situ* training studies (i.e., Dufrene et. al., 2012, Dufrene et. al., 2014; Labrot et.al., 2017), Teachers 1, 2, and 3 demonstrated poor treatment integrity outcomes during maintenance, as seen by a sharp decrease in rate of BSP that was consistent with the rates obtained during baseline. Maintenance of rates of BSP for Teacher 4 could not be assessed due to the end of the school year.

With respect to Teacher 3, in spite of responding to Tier 2 teacher training, a sharp decrease in the rate of BSP is observed during maintenance relative to the other teacher participants that received additional supports at the Tier 3 level. These results replicate Myers and colleagues (2011) where two participants that did not need Tier 3 consultation returned to baseline levels in maintenance. It is hypothesized that the amount of time a teacher is receiving coaching might help in maintaining treatment

integrity (i.e., rates of BSP). When compared to the other teachers in this study who received Tier 2, and then 'overtraining' with Tier 3 (i.e., prompts every minute), Teacher 3 received a shorter and less intensive training in BSP which may have contributed to poor maintenance outcomes.

Question 5

The last research question examined teacher participant's perceptions of the social validity of the TBC approach used in this study. An overall CASS (Dufrene & Ware, 2018) average of 4.48 suggests that teachers generally perceived the tiered consultation approach as socially valid. This is consistent with Noell and colleagues (2005) where despite teachers demonstrating inconsistencies in treatment integrity (i.e., rate of BSP) their acceptability rating was relatively high. An average of 3.75 for the item "the consultation process was completed in a timely fashion," indicates participants "slightly agree" with TBC being completed in a timely manner. Teachers perception of this item may have been influenced by the methodology of this study. In a typical BC, while the consultant can still follow TBC approach, the recommendations for classroom management will have been more specific to the particular teacher's concerns. Although BSP is a foundational classroom management strategy, the caliber of the DB in the classrooms that participated within this study may have warranted a more individualized recommendation. Teacher 4, for instance rated "The referred student/class benefited from the consultation process" with a three, which suggests the teacher "slightly agree" with this premise. Relative to previous studies (e.g., Coffee & Kratochwill, 2013; Gresham & Kendell, 1987; Noell, et. al., 2005; Sanetti & Kratochwill, 2008) issues of motivation, perceptions of the effectiveness of the intervention, and social and

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environmental factors that may have interfere with teachers' attention to student(s) behavior in order to deliver BSP (e.g., physical altercations in some of the classrooms) may have play a role in treatment integrity. The latter factors may have also influenced teachers' overall perceptions of acceptability of the proposed procedures.

Teachers 1, 2, and 3 provided qualitative responses in regards to their perceptions of acceptability of BSP as a classroom management strategy. Teacher 4 did not provide qualitative responses in regards to her acceptability of BSP as a classroom intervention. Although two teachers reported they believed in the intervention, another teacher reported "I am still not sure how I feel about the intervention." Overall, teachers that provided qualitative responses focused on their perceptions of long term effects of BSP on their students' future behavior, rather than noticing the impact of BSP at the present moment. At this time, while the exact reason for these perceptions is still unknown, it may be a result of the tiered consultation or of the perceived inconsistencies in improvements of classroom behavior.

Other contributions to the literature

This study contributed to the consultation literature in ways that extend beyond the research questions. First, this is the first study examining the effects of a tiered consultation approach in high school teachers. Second, a diverse group of teachers with various levels of experience participated in the study. Third, this study adds to the tactile prompting and *in situ* training literature by demonstrating these strategies can be effectively and systematically used as a continuum of training for teachers that do not respond to the least intensive methods of training. The fact that not all teachers required the most intensive consultation strategies (i.e., Teacher 2) and the others required the

most intensive consultation strategies (i.e., Teacher 4) may support the latter conclusion. Finally, another important contribution of this study is related to maintenance data. While maintenance was collected for three out of the four teacher participants, this is the first TBC study assessing maintenance for more than one teacher, with results replicating Simonsen and colleagues (2013) results where most teachers declined rate of BSP.

Other contributions are related to changes in the levels of reprimands across phases of this study. Although the research questions looked specifically at the effects of BSP, the rates of reprimands across all phases of the study displayed a decrease in level when compared to baseline. These observations are similar to O'Handley and colleagues (2018). In this study, low rates of reprimands were overall maintained across all phases of the study after TBC. Therefore, it can be hypothesized that training in BSP at either level of support led to reductions in reprimands, which may have led to increased AEB and decreased DB.

Limitations and Future Directions

Results of this study suggest that different teachers benefit from different levels of support during the consultation process. In particular, this study shows that targeted consultation is an option for improving teachers' skills in certain areas. However, several limitations are worth noting.

First, this study was conducted from mid-school year until the end of the school year. Therefore, issues of fatigue and burn out may have contributed to teachers' motivation for change. Future studies should then consider the time of the school year when implementing BSP interventions and assess its treatment integrity effects across time. Another limitation of this study is the lack of assessment of the overall function of

the DB in the classrooms. Prior literature indicates that function-based interventions have significantly greater effects on student behavior (e.g., Dufrene, Doggett, Henington, & Watson, 2007; Iwata, Dorsey, Slifter, Bauman & Richman, 1982; von Schulz, 2014; Poole, 2011). Without a thorough assessment of the function of students' DB as part of the Problem Identification stage of BC (Bergan & Kratochwill, 1990; Coffee & Kratochwill, 2013), interventions may not target the consequences that are most salient to the problem behavior. Within this study, the intervention may have been effective for students who were exhibiting disruptive behavior to gain teacher attention, but those who engage in DB for other consequences may not have been impacted by the intervention. Future research should consider assessing for the overall function of students' DB so that more targeted interventions are recommended and integrated within the tiered consultation approach.

Additionally, generalization data were not collected in this study. Anecdotally, Teacher 3 and 4 reported they were using BSP in other classrooms; however, without systematic data collection this is hard to conclude. The consultation literature has important gaps with respect to assessing and planning for generalization; few studies (Labrot, 2016; Taber, 2014) exist that have evaluated generalization of certain components of this study (i.e., *in situ* training). Generalization is a crucial component of BC, since BC aims to increase teachers' skills across situations and reduce the need for consultation in the future. Classroom management strategies must be generalized to benefit other students with similar problem behaviors. Since this study did not assess for generalization formally, future research should assess and plan for generalization when using TBC.

Lastly, the frequency of PF meetings was also considered to be a limitation of this study. Taber (2014) implemented PF meetings proactively rather than reactively to deteriorations in treatment integrity. In addition to including levels of support that assist with learning of a skill, future studies should examine the effects of TBC using different schedules of PF, a combination of PF methods (e.g., daily written PF plus weekly face-to-face meetings), or a combination of all the above and the use of other strategies such as discriminant stimuli.

Conclusion

Akin to demonstrated effectiveness of RtI and MTSS systems where universal, secondary and tertiary levels of support are used to improve students' academic and behavioral outcomes, a similar tiered consultation approach can be used to address teachers' issues of treatment implementation and training. This study provides preliminary evidence for the use of TBC for training teachers in the use of BSP. This study also builds on previous tiered consultation research by including a group of teacher participants with a wide variety of years of experience. Within this area of research, further studies are certainly needed that address issues of variability in data, PF, and generalization. Lastly, literature investigating methods for behavioral modification of high school students is limited. This study adds to the limited literature investigating BSP in this population.

APPENDIX A IRB Approval Letter

THE UNIVERSITY OF SOUTHERN MISSISSIPPI.

INSTITUTIONAL REVIEW BOARD
118 College Drive #5147 | Hattiesburg, MS 39406-0001
Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
  Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 16120702
PROJECT TITLE: Tiered Consultations to Improve, Generalize, and Maintain Teachers' Behavior Specific Praise
PROJECT TYPE: New Project
RESEARCHER(S): Mariangely Melendez-Torres
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expdedited Review Approva
PERIOD OF APPROVAL: 02/03/2017 to 02/02/2018
Lawrence A. Hosman, Ph.D.
Institutional Review Board

Hattiesburg
Public School District

January 24th, 2017

Mariangely Melendez-Torres, M.A.
Doctoral Candidate
University of Southern Mississippi

Re: Tiered Consultation Study

Dear Mrs. Mariangely Melendez-Torres,

Your request for permission to collect data for your doctoral dissertation titled **Tiered Consultation to Improve, Generalize, and Maintain Teachers' Behavior Specific Praise** has been approved. The procedures for training teachers on Behavior Specific Praise using a Tiered approach to consultation are considered acceptable and appropriate. We appreciate the opportunity to work with you and trust that this will be a mutually benefit endeavor.

Sincerely,

JASN SMITH
HPSD PR Coordinator
QLT Manager

APPENDIX C Teacher Consent Form

CONSENT FOR PARTICIPATION IN CONSULTATION SERVICES

Title of the Study: A Response to Consultation for Teachers.

Purpose of the Study: This study is investigating the effects of the use of a response to intervention approach to consultation. The intent of this study is to provide teachers with high incidence of Office Discipline Referrals (ODRs), evidence-based strategies and techniques that might aid in the reduction of students' disruptive behavior and increase in students' academically engaged behavior.

Who is invited to participate: Middle and/or high school teachers and their classrooms. Teachers with high numbers of ODRs, and low rates of behavior specific praise are also invited to participate.

Methods and Procedures: If you agree to participate, the primary researcher of this study will contact you and meetings will be scheduled. During these meetings the researcher and teacher will have conversations about current concerns with classroom behavior. Moreover, the researcher, who will also serve as a consultant, will train you on classroom management techniques and delivery of behavior specific praise. Your "response to consultation" will be measured throughout the period of consultation services. Two different types of consultation services may be given, one that is more intense than the other. During the less intense consultation service, the researcher will visit your classroom and will give you a device called Motivaider® which will prompt you to deliver behavior specific praise every 2 minutes. Meetings will be held once a week to discuss challenges, concerns, show your progress and changes in student classroom behavior, and answer your questions. More intense services will be provided

if no improvements are seen during the latter type of consultation services.   During the intense services, instead of a Motivaider®, the researcher will give you a bug-in-the-ear device through which the researcher will provide models of behavior specific praise. Weekly meetings will also be scheduled during this type of services. Following these services, training on implementation of techniques and delivery of behavior specific service in novel situations will be provided. Upon the conclusion of the services, follow up observations will be conducted.

Benefits: Your benefits for participating in this study include the acquisition and development of skills, strategies and techniques for improving classroom management and improving students' behaviors.

Risks and Discomfort: Some risks can be anticipated from participating in this study. First, you may not feel confortable holding a meeting with the examiner from 1 times to 3 times per week. Second, the use of the Motivaider® and/or the bug-in-the ear may appear intrusive. Third, without the development of corrective teaching interactions, you might not be able to meet school wide expectations or manage student classroom behavior with technique that are evidence based.

Records: The information that you provide for this study about yourself as well as you identification or any other type of private information will be kept confidentially. The latter will also holds true for information related to your name, students' name or other source of information that might disclose your identity. It should be noted that results from this study might be shared at professional conferences or published in scientific journals.

Voluntary Participations: Your participation in this study should be voluntary. You

may withdrawal from the study at any time.

Consent: If you agree to participate, please read, sign, and return the following page.

Please keep this letter for your records. If you have any questions about this study, please

contact Marian Meléndez-Torres or Dr. Brad Dufrene (Phone: 601-266-5255; Email:

mariangely.melendeztorres@usm.edu; brad.dufrene@usm.edu). This project and this

consent form have been reviewed by the Human Subjects Protection Review Committee,

which ensures that research projects involving human subjects follow federal regulations.

Any questions or concerns about rights as a research subject should be directed to the

Institutional Review Board Office, The University of Southern Mississippi, Box 5147,

Hattiesburg, MS 39406-5147; (601) 266-6820.

Mariangely Melendez-Torres, M.A.	Brad Dufrene, Ph.D.
School Psychologist-in-Training	Supervising Licensed Psychologist
Department of Psychology	MS License #50-881
The University of Southern Mississippi	Department of Psychology
	The University of Southern
	Mississippi

To Be Completed By Teacher

If you agree to participate, please read, sign, and return this form.

I have received and read the consent document and have decided to participate in this project. The purpose and procedures have been explained to me. I have had an opportunity to ask questions and I understand that if I have questions at any time in the future, I can ask and expect to receive a reply in a timely manner.   I am voluntarily signing this form to participate under the conditions as stated.

I understand that I will be asked to implement an intervention and that observations will be conducted in the classroom. In order to participate in this study, I understand that I will be required to complete interview(s), implement the intervention and complete some questionnaires. I understand that I will be trained in the intervention with the use of a radio by the consultant. I also understand that all data collected in the process of this study will be confidential and that there will be nothing to identify myself or my students in the event that the data from this study be presented or published.

I understand that I may withdraw my consent for participation at any time without penalty.

Name of Teacher	Signature	Date

Name of Witness	Signature

APPENDIX D Observation Form

1.1	1.2	1.3	1.4	1.5	1.6	2.1	2.2	2.3	2.4	2.5	2.6
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
3.1	**3.2**	**3.3**	**3.4**	**3.5**	**3.6**	**4.1**	**4.2**	**4.3**	**4.4**	**4.5**	**4.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
5.1	**5.2**	**5.3**	**5.4**	**5.5**	**5.6**	**6.1**	**6.2**	**6.3**	**6.4**	**6.5**	**6.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
7.1	**7.2**	**7.3**	**7.4**	**7.5**	**7.6**	**8.1**	**8.2**	**8.3**	**8.4**	**8.5**	**8.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
9.1	**9.2**	**9.3**	**9.4**	**9.5**	**9.6**	**10.1**	**10.2**	**10.3**	**10.4**	**10.5**	**10.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB

11.1	11.2	11.3	11.4	11.5	11.6	12.1	12.2	12.3	12.4	12.5	12.6
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
13.1	**13.2**	**13.3**	**13.4**	**13.5**	**13.6**	**14.1**	**14.2**	**14.3**	**14.4**	**14.5**	**14.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
15.1	**15.2**	**15.3**	**15.4**	**15.5**	**15.6**	**16.1**	**16.2**	**16.3**	**16.4**	**16.5**	**16.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
17.1	**17.2**	**17.3**	**17.4**	**17.5**	**17.6**	**18.1**	**18.2**	**18.3**	**18.4**	**18.5**	**18.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB
19.1	**19.2**	**19.3**	**19.4**	**19.5**	**19.6**	**20.1**	**20.2**	**20.3**	**20.4**	**20.5**	**20.6**
BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:	BSP:
Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:	Rep:
AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB	AEB DB

APPENDIX E Consultation Satisfaction Survey

CONSULTATION ACCEPTABILITY & SATISFACTION SCALE (Taber, 2015)

0=Strongly Disagree, 5=Strongly Agree

	Strongly Disagree					Strongly Agree
1. The consultant seemed knowledgeable about effective classroom practices.	0	1	2	3	4	5
2. The consultant effectively answered my questions.	0	1	2	3	4	5
3. The consultant provided recommendations that were appropriate given the concerns about the student/class.	0	1	2	3	4	5
4. The consultant clearly explained the assessment and/or intervention procedures.	0	1	2	3	4	5
5. The consultant effectively taught me how to implement their recommendations.	0	1	2	3	4	5
6. The consultant provided me with the resources to implement their recommendations.	0	1	2	3	4	5
7. The consultation process seemed appropriate given the severity of the student's/class's referral concern.	0	1	2	3	4	5
8. The consultation process did NOT significantly interfere with classroom activities.	0	1	2	3	4	5
9. The consultation process did NOT significantly interfere with classroom activities.	0	1	2	3	4	5

10. The consultation process was completed in a timely fashion.	0	1	2	3	4	5
11. The referred student/class benefited from the consultation process.	0	1	2	3	4	5
12. I would like to work with this consultant again in the future.	0	1	2	3	4	5
13. Other teachers would benefit from working with this consultant.	0	1	2	3	4	5

APPENDIX F Treatment Satisfaction Survey

BEHAVIOR INTERVENTION RATING SCALE (BIRS; Elliot & Treuting, 1991)

Please circle the number that best describes your agreement or disagreement with each statement.

Statement:	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
1. This would be an acceptable intervention for the child's problem behavior	1	2	3	4	5	6
2. Most teachers would find this intervention appropriate for behavior problems in addition to the one described.	1	2	3	4	5	6
3. The intervention should prove effective in changing the child's problem behavior.	1	2	3	4	5	6
4. I would suggest the use of this intervention to other teachers.	1	2	3	4	5	6
5. The child's behavior problem is severe enough to warrant use of this intervention.	1	2	3	4	5	6
6. Most teachers would find this intervention suitable for the behavior problem described.	1	2	3	4	5	6
7. I would be willing to use this in the classroom setting.	1	2	3	4	5	6
8. The intervention would *not* result in negative side-effects for the child.	1	2	3	4	5	6
9. The intervention would be appropriate for a variety of children.	1	2	3	4	5	6
10. The intervention is consistent with those I have used in classroom settings.	1	2	3	4	5	6
11. The intervention was a fair way to handle the child's problem behavior.	1	2	3	4	5	6

Statement:	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
12. The intervention is reasonable for the behavior problem described.	1	2	3	4	5	6
13. I like the procedure used in the intervention.	1	2	3	4	5	6
14. The intervention was a good way to handle this child's behavior problem.	1	2	3	4	5	6
15. Overall, the intervention would be beneficial for the child.	1	2	3	4	5	6
16. The intervention would quickly improve a child's behavior.	1	2	3	4	5	6
17. The intervention would produce a lasting improvement in the child's behavior.	1	2	3	4	5	6
18. The intervention would improve a child's behavior to the point that it would not noticeably deviate from other classmates' behavior.	1	2	3	4	5	6
19. Soon after using the intervention, the teacher would notice a positive change in the problem behavior.	1	2	3	4	5	6
20. The child's behavior will remain at an improved level even after the intervention is discontinued.	1	2	3	4	5	6
21. Using the intervention should not only improve the child's behavior in the classroom, but also in other settings (e.g., other classrooms, home).	1	2	3	4	5	6
22. When comparing this child with a well-behaved peer before and after the use of the intervention, the child's and the peer's behavior would be more alike after using the intervention.	1	2	3	4	5	6

Statement:	Strongly Disagree	Disagree	Slightly Disagree	Slightly Agree	Agree	Strongly Agree
23. The intervention should produce enough improvement in the child's behavior so the behavior no longer is a problem in the classroom.	1	2	3	4	5	6
24. Other behaviors related to the problem behavior are likely to be improved by the intervention.	1	2	3	4	5	6

APPENDIX G Procedural Integrity for Tier 1 Universal Teacher Training

Steps	Yes	No
1. All teachers were invited to participate.		
2. The consultant provided teachers with their school's ODR data and school's most recent SET scores (if applicable)		
3. During didactic training empirical support for and procedural details for Behavior Specific Praise (BSP) was presented.		
4. The consultant discussed Effective Instruction Delivery (EID) and how it can help in increasing student compliance.		
5. The consultant presented strategies for corrective teaching interactions.		
6. The consultant demonstrated BSP statements via video modeling.		
7. The consultant requested demonstrations of BSP from the audience.		
8. The consultant provided feedback for demonstrations of BSP from the audience.		
9. Audience members were allowed to ask questions.		
10. Handouts summarizing the information provided during the training were provided to the participants.		

Number of steps completed	/ 10
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX H Procedural Integrity for Tier 1 – Baseline Observations

Steps	Yes	No
1. Teacher is informed that a 20-minute observation will be conducted in their classroom.		
2. Teacher is encouraged to continue using typical instruction and classroom management strategies.		
3. Observers did not interact with students or teacher during observation period.		
4. Observers did not provide teacher or students feedback regarding performance during the observation.		

Number of steps completed	/ 4
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX I Procedural Integrity for Tier 2 Initial Meeting

Steps	Yes	No	N/A
1. The consultant meets with the teacher at an agreed upon time and day.			
2. Consultant greets the teacher in a professional and polite manner.			
3. The consultant provides a brief rationale for using BSP.			
4. The consultant displays two graphs on a laptop computer with Baseline observation results. One graph displays rate of BSP and negative statements during baseline, and the other graph displays classroom behavior (i.e., AEB and DB) during baseline.			
5. The consultant provides praise for any adherence to procedures, and corrective feedback for lack thereof.			
6. Brief didactic review on procedures and techniques of BSP.			
7. Video modeling of teacher actor delivering BSP to an actor student is presented.			
8. Consultant explains the use of the Motivaider® by explaining it will be used on his/her belt/pockets and will be set to emit vibration prompts every 2 minutes as a reminder for delivering BSP.			
9. Consultant encourages use of Motivaider® at the target classroom (i.e., during times identified as most problematic).			
10. Opportunities for questions are allowed.			

Number of steps completed	/ 10
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX J Integrity of Tier 2 Observations

Steps	Yes	No
1. Primary observer not the researcher/consultant conducts the observation.		
2. Primary observer provides the teacher with a Motivaider® set up to deliver vibration prompts every 2-minutes.		
3. Observers did not interact with students or teacher during observation period.		
4. Observers do not provide teacher or students feedback regarding performance during or after the observation.		

Number of steps completed	/ 4
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX K Procedural Integrity for Tier 3 Initial Meeting

Steps	Yes	No
1. The consultant meets with the teacher at an agreed upon time and day.		
2. Consultant greets the teacher in a professional and polite manner.		
3. The consultant provides a rationale for continued use of BSP in the classroom.		
4. The consultant displays two graphs on a laptop computed with baseline and Tier 2 observation results. One graph displays rate of BSP vs. negative statements, and the other graph displays classroom behavior (AEB and DB).		
5. The consultant provides praise for adherence to procedures, and corrective feedback for lack thereof.		
6. A rationale and procedures of Tier 3 is provided to the teacher.		
7. The BITE is presented, and its use explained.		
8. The consultant demonstrates and role-plays the use of BITE with the teacher.		
9. Questions are encouraged and answered.		

Number of steps completed	/ 9
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX L *In Situ* Training Procedural Integrity

Steps	Yes	No
1. Consultant/researcher visits the teachers' classroom and provides 20-minute direct prompting to the teacher through the BITE.		
2. Prompts occur on a fix interval schedule of 1-minute.		
3. If teacher delivers BSP statements before consultant's prompt no prompts will be given for that interval.		
4. Consultant's prompts are specific (e.g., Johnny good job working on your assignment quietly).		

Number of steps completed	/ 4
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX M Procedural Integrity of Tier 3 Observations

Steps	Yes	No
1. Primary observer, not the researcher/consultant, conducts the observation.		
2. Consultant/researcher is in classroom providing prompts to the teacher through the BITE.		
3. Observers did not interact with students or teacher during observation period.		
4. Observers do not provide teacher or students feedback regarding performance during or after the observation.		

Number of steps completed	/ 4
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

APPENDIX N Procedural Integrity for Observations During Maintenance

Steps	Yes	No
1. Observations take place at the training setting a month after teacher met minimum criterion for Tier 2 or Tier 3.		
2. Teacher is informed that a 20-minute observation will be conducted in their classroom.		
3. Observers did not interact with students or teacher during observation period.		
4. Observers do not provide teacher or students feedback regarding performance during the observation.		

Number of steps completed	/ 4
Percentage of steps completed	
IOA (Agreements / Agreements + Disagreements * 100)	

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