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Maintenance and Generalization of Preschool Teachers' Use of Behavior Specific Praise Following In Situ Training

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MAINTENANCE AND GENERALIZATION OF PRESCHOOL TEACHERS' USE OF BEHAVIOR SPECIFIC PRAISE FOLLOWING IN SITU TRAINING

by

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ABSTRACT

MAINTENANCE AND GENERALIZATION OF PRESCHOOL TEACHERS' USE OF BEHAVIOR SPECIFIC PRAISE FOLLOWING IN SITU TRAINING

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This study tested the efficacy of *in situ* training via a multiple baseline design across participants for increasing four Head Start teachers' use of behavior specific praise (BSP) in classroom settings while evaluating concomitant changes in their classes' behavior. Of further interest was the extent to which Head Start teachers maintained and generalized use of BSP in untrained settings. The results of this study indicate that *in situ* training was effective for increasing Head Start teachers' use of BSP above baseline rates and generally maintained above a predetermined criterion (i.e., .5 BSP statements per minute). Data also indicate that Head Start teachers generalized use of BSP to untrained settings. Finally, increases in Head Start children's appropriately engaged behavior and decreases in disruptive behavior were observed in trained and untrained settings. The results of this study are discussed in terms of its extension of the school-based consultation literature, its limitations, future directions for research, and implications for applied practice.

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DEDICATION

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CHAPTER I – INTRODUCTION

Preschool children are at-risk for a variety of emotional (e.g., depression or anxiety; Lavigne, LeBailly, Hopkins, Gouze, & Binns, 2009) and behavioral (e.g., oppositional defiant disorder; Lavigne et al., 2009; Wichstrom et al., 2012) disorders. This is especially true for preschool children who experience risk factors such as poverty, family discord, low parental education, low birth weight, and exposure to drugs and alcohol in utero (Carter et al. 2010; Raver et al., 2009; Rescorla et al., 2011; Shankaran et al., 2007; Wichstrom et al., 2012). Early intervention practices, however, have been shown to be useful for improving preschool age children's social, emotional, and behavioral skill repertoires (LaBrot, Dufrene, Radley, & Pasqua, 2016; Raver et al., 2009; Webster-Stratton & Herman, 2009; Webster-Stratton, Reid, & Hammond, 2001); which, in turn, promote successful transition into elementary and middle school (Carter et al., 2010). Unfortunately, preschool teachers are not well trained in the use of classroom management techniques that promote school readiness (Snell, Berlin, Voorhees, Stanton-Chapman, & Hadden, 2012).

Teacher praise, for example, is a simple classroom management technique that has been shown to promote appropriate student behavior (Austin & Soeda, 2008; Blaze, Olmi, Mercer, Dufrene, & Tingstrom, 2014; Dufrene et al., 2012; Gable, Hester, Rock, & Hughes, 2009). Praise can be defined as expressing statements of approval or admiration for a particular behavior or set of behaviors (Brophy, 1981). However, research indicates that teachers' natural rates of praise can be low and variable (Brophy, 1981; Jenkins, Floress, & Reinke, 2015; White, 1975). For instance, in a seminal study, White (1975) showed that teacher rates of praise were low (i.e., .06 to 1.3 praise statements per minute)

and tended to decrease as students' grade level increased, with secondary education teachers emitting the lowest rates of praise. Similarly, Brophy (1981) reviewed six studies which indicated teachers infrequently provided praise for students' correct verbal responses to academic questions and appropriate classroom behavior (i.e., .01 to 16.08 praise statements per hour).

In contrast to the results reported by White (1975) and Brophy (1981), Reinke, Herman, and Stormont (2013) and Floress and Jenkins (2015) found that kindergarten through third grade teachers provided higher rates of praise than White (1975) and Brophy (1981). Specifically, Reinke et al. (2013) found that teachers provided general praise (i.e., statements of approval that do not reference specific behaviors) to general education, kindergarten through third grade students, approximately 25.8 times per hour. Results from the study conducted by Floress and Jenkins (2015) indicated that teachers emitted general praise statements to kindergarten students, on average, 47.3 times per hour; however, both Reinke et al. (2013) and Floress and Jenkins (2015) reported lower rates of behavior specific praise (BSP) (i.e., 7.8 and 8.8 behavior specific praise statements per hour, respectively).

BSP is defined as statements of approval that reference a specific behavior (Brophy, 1981; Floress and Jenkins, 2015; Jenkins et al., 2015). More specifically, a BSP statement involves praising and describing a specific behavior (e.g., "Thank you for raising your hand quietly"), while general praise statements involve providing an approving comment without describing the behavior for which the praise was provided (e.g., "Good job"). Brophy (1981) argued that BSP is superior to general praise as BSP allows a student to differentiate the behavior for which they are receiving praise. That is,

BSP is a statement of approval that explicitly describes the desirable behavior that should occur in the future, but a student may not readily recognize the behavior for which they received general praise (Brophy, 1981; Floress & Jenkins, 2015). There is a great deal of research that demonstrates the beneficial effects of BSP on student outcomes.

For example, BSP has been shown to increase on-task behavior (e.g., Chalk & Bizo, 2004; Duchaine, Jolivette, & Fredrick, 2011; Sutherland, Wehby, & Copeland, 2000), decrease off-task behavior (e.g., Dufrene, Lestremau, & Zoder-Martell, 2014; Reinke, Lewis-Palmer, & Merrell, 2008; van der Mars, 1989), and decrease disruptive behaviors in the classroom setting (e.g., Dufrene et al., 2014; Nguyen, 2015; Reinke et al., 2008; Taber, 2014). Unfortunately, the current body of literature on natural rates of teacher praise suggests that teachers may not always deliver praise at an appropriate rate (e.g., Brophy, 1981; Burnett & Mandel, 2010; White, 1975), with even lower rates of BSP (e.g., Floress & Jenkins, 2015; Jenkins et al., 2015; Reinke et al., 2012); although, what is considered an adequate or appropriate amount of praise does not have empirical support. Therefore, it is paramount that school-based practitioners (e.g., school psychologists) who are knowledgeable about evidence-based classroom management strategies consult with teachers so as to increase BSP rates.

Review of the School-Based Consultation Literature

School-based consultation involves evaluating a student, teacher, or classroom's performance and providing recommendations for evidence-based strategies and supports to the teacher for improving a student or classroom's behavioral or academic performance. Therefore, school-based consultation is an indirect form of service delivery in that consultants do not work with students directly (Erchul & Martens, 2012; Erchul &

Sheridan, 2014). School-based consultation has been shown to improve teachers' implementation of evidence-based strategies across a range of students (e.g., preschool, elementary, middle school, general education, and special education; Alpert & Yammer, 1983; Busse, Kratochwill, & Elliot, 1999; Dufrene et al., 2012).

For instance, school-based consultation can be effective for decreasing disruptive behavior (Dufrene et al., 2014; Dufrene et al., 2012; Noell, Duhon, Gatti, & Connell, 2002), increasing on-task behavior (Noell et al., 2002), decreasing the number of students referred to special education while increasing more appropriate placement rate for referred students (Fuchs, Fuchs, & Bahr, 1990; Rosenfield, 1992), and improving academic performance (Sheridan, Welch, & Orme, 1996). In fact, in a review of 10 years of school-based consultation outcome research, Sheridan et al. (1996) found that 76% of the reviewed studies produced some positive results. Moreover, school-based consultation is the preferred method of service delivery for both school-based practitioners and researchers (Alpert & Yammer, 1983; Gutkin & Curtis, 1999; Medway, 1982). One example of a consultation model frequently utilized by school-based consultants is behavioral consultation (BC).

BC is a framework that can be utilized by school-based consultants to increase the likelihood that teachers engage in evidence-based procedures to improve student outcomes. BC, also referred to as problem-solving consultation, was developed by Bergan (1977) and further refined by Kratochwill and Bergan (1990). BC is an indirect service delivery model and involves four stages: (1) problem identification, (2) problem analysis, (3) plan implementation, and (4) problem evaluation (Erchul & Martens, 2012; Erchul & Sheridan, 2014).

Problem identification involves identifying and operationally defining a student's problem behavior. The Problem Identification Interview is conducted by the school-based consultant with the teacher during this stage of consultation, and involves (1) approximating the frequency, duration, and magnitude of the student's problem behavior, (2) hypothesizing environmental antecedents and consequences that maintain problem behavior, and (3) developing data collection procedures to be used for baseline and intervention evaluation (Erchul & Martens, 2012; Erchul & Sheridan, 2014). The problem analysis stage is accomplished through the Problem Analysis Interview, and involves establishing goals for behavior change and developing an intervention to promote behavior change (Erchul & Martens, 2012; Erchul & Sheridan, 2014). During this stage, direct behavioral observations of the student in the classroom setting (e.g., conditional probabilities observation; Cooper, Heron, & Heward, 2007) are often conducted to identify antecedents and consequences maintaining the student's problem behavior. Plan implementation consists of training the teacher to implement the intervention plan. The final stage, problem evaluation, includes monitoring a student's response to the intervention as well as a teacher's implementation of the intervention (Erchul & Martens, 2012; Erchul & Sheridan, 2014).

Overall, the literature suggests that BC is an effective consultation method for improving teacher intervention implementation and subsequent student outcomes (e.g., Busse et al., 1999; Erchul & Sheridan, 2014; Mautone, Luiselli, & Handler, 2006; Noell et al., 2005; Sheridan et al., 1996). However, a common criticism of BC is that it relies too heavily on the verbal interactions between a consultant and teacher, with less guided practice (Witt, Gresham, & Noel, 1996; Witt, Noell, LaFleur, & Mortenson, 1997).

Direct behavioral consultation (DBC; Dufrene et al., 2012; Watson & Robinson, 1996; Watson & Sterling-Turner, 2008) is an extension of BC, and was designed to address this limitation. Like BC, DBC includes the same four-step problem-solving process. The primary difference between BC and DBC is that DBC involves consultation service delivery in the classroom setting during ongoing activities. Therefore, DBC places a greater emphasis on teachers practicing implementation while being coached by a consultant, as opposed to relying on verbal interactions between the consultant and teacher (Watson & Robinson, 1996; Watson & Sterling-Turner, 2008). At this time, the DBC literature is still developing; however, the emerging literature base suggests it is useful for improving teacher implementation of intervention procedures and improving student outcomes (Dufrene et al., 2014; Dufrene et al., 2012; LaBrot, Pasqua, Dufrene, Brewer, & Goff, 2015; Nguyen, 2015; Taber, 2014; Zoder-Martell et al., 2014). A possible explanation for the effectiveness of DBC is that teachers are trained in the presence of relevant environmental stimuli, which may promote maintenance of intervention implementation. Additionally, DBC may be effective because teachers' improved use of classroom management techniques is reinforced by students' outcomes (e.g., decreased disruptive behavior, increased compliance).

The primary goal of both BC and DBC is to train teachers to implement evidence-based interventions in the absence of the consultant so as to promote long-term positive student outcomes. However, it is often the case that teachers do not maintain the use of classroom management techniques (e.g., general praise, BSP) learned through consultation. The following section will describe the literature base regarding maintenance of skills trained through BC and DBC.

Consultation and Training for Teacher Praise: Maintenance

Maintenance refers to the degree to which an individual continues to engage in a particular behavior after all, or a portion, of a behavior change procedure (e.g., school-based consultation) that was responsible for behavior change has been removed (Cooper et al., 2007). Therefore, collection of maintenance data is essential for determining the long-term benefits of a given behavior change procedure. The consultation literature, however, has several studies in which maintenance data were not collected.

As an example, Sterling-Turner, Watson, and Moore (2002) examined the effects of didactic and direct training within a BC model of service delivery on teacher intervention implementation integrity and treatment outcomes. Didactic training involved verbal training on specific students' behavior intervention plan, whereas direct training included a verbal rationale for implementing a behavior intervention plan, modeling, rehearsal, and performance feedback on intervention implementation. Results of this study demonstrated that direct training was superior to didactic training for increasing teacher intervention integrity as well as improving student outcomes (Sterling-Turner et al., 2002). However, maintenance data on teacher intervention implementation were not collected; so, it is unclear whether or not BC was useful for teachers' maintained use of acquired classroom management skills. Researchers conducting consultation studies in which teachers are trained to increase their rate of praise have also failed to collect maintenance data.

Matheson and Shriver (2005), for instance, conducted a study to examine the relative effectiveness of direct training and performance feedback on three general education teachers' use of praise and effective commands and corresponding student

outcomes. This study found that consultation in the form of direct training and performance feedback produced modest increases in teachers' use of effective commands and minimal increases in rate of praise for two of three participants. Moreover, maintenance data were not collected in this study. Similarly, Stormont et al. (2007) evaluated the effects of direct training on Head Start teachers' rate of BSP and found that direct training was useful for increasing teachers' rate of BSP, decreasing rate of teacher reprimands, and decreasing student disruptive behavior; yet, maintenance data were not collected. These studies are examples of consultation studies that did not collect maintenance data; however, researchers in this area of investigation often fail to collect and report maintenance data (e.g., Capella et al., 2012; Carter & Van Norman, 2010; Dart, Cook, Collins, Gresham, & Chenier, 2012; DiGennaro, Martens, & Kleinmann, 2007; DiGennaro, Martens, & McIntyre, 2005; Jones, Wickstrom, & Friman, 1997; Lerman, Vorndran, Addison, & Kuhn, 2004; Scheeler, McKinnon, & Stout, 2011; Sheridan et al., 2012). However, school-based consultation research studies where maintenance data have been collected do not always provide a great deal of support that teachers maintain use of skills acquired through consultation.

Hiralall and Martens (1998) conducted a study that evaluated the effects of direct instruction plus the use of intervention scripts on four preschool teachers' use of BSP and subsequent changes in children's behavior. Direct instruction involved a two-hour training outside of ongoing classroom activities in which BSP was described and modeled by a researcher (Hiralall & Martens, 1998). Following the direct training phase, an intervention script that outlined all intervention procedures trained through consultation was given to all teachers (i.e., direct training plus intervention script phase).

Results of this study indicated all four teachers' use of BSP increased above baseline during direct instruction and direct instruction plus intervention script phases with corresponding increases in preschool children's appropriate classroom behavior. However, maintenance data suggested that only two of four teachers maintained their use of BSP. This study indicates that some preschool teachers may not maintain praise rates in absence of on-going consultation. Subsequent to Hiralall and Martens' (1998) study, other researchers have assessed the effects of consultation for increasing teachers' general praise and BSP, while evaluating the maintenance of general praise and BSP gains.

Dufrene et al. (2012) tested the effects of a DBC *in situ* training procedure on two Head Start and two Early Head Start teachers' use of BSP and effective instruction delivery (EID; Everett, Olmi, Edwards, & Tingstrom, 2005; Ford, Olmi, Edwards, & Tingstrom, 2001) to decrease preschool children's disruptive behavior. These teachers were referred for consultative services due to frequent disruptive behaviors exhibited by preschool children in their classroom (Dufrene et al., 2012). *In situ* training involved the use of a one-way FM radio to provide real-time verbal prompts to teachers to provide BSP to children engaging in appropriate behavior and EID to students who required redirection during ongoing classroom activities. Dufrene et al. (2012) established a criterion of two BSP statements per minute; that is, they prompted teachers to provide at least two BSP statements to children every minute during the training phase. Prior to *in situ* training, however, Dufrene et al. (2012) provided didactic instruction to teachers regarding use and the importance of BSP and EID for preschool children. Results of this study indicated that three of four teachers maintained their rate of BSP and accuracy of

EID implementation immediately after terminating *in situ* training and one month later during a follow-up phase. Furthermore, children's level of disruptive behavior decreased during *in situ* training in all four classrooms, and remained at low levels during maintenance and one-month follow-up phases for three classrooms (Dufrene et al., 2012). The fourth teacher left the study prior to the maintenance phase to take a position with another agency. Results of this study are important because they demonstrate that teachers' rate of BSP can be maintained immediately following *in situ* training and one month later; however, this study was not without limitations.

Dufrene et al. (2012) included some limitations that are important to describe. First, didactic instruction always preceded *in situ* training. Therefore, it is unknown whether an order effect was responsible for teacher behavior change, or if *in situ* training alone would have been sufficient to promote teacher rate of BSP and EID accuracy. Second, data were not collected on teachers' rate of reprimands or negative statements (e.g., Zoder-Martell et al., 2014) or children's display of appropriately engaged behavior. These are limitations to external validity as it is unknown if teachers' rates of reprimands and children's display of appropriately engaged behavior would have improved following *in situ* training. Third, social validity data were not collected regarding teachers' preference for *in situ* training; thus, the degree to which teachers find *in situ* training procedures to be socially valid and effective is unknown. Finally, generalization data were not collected in this study. So it is unclear to what extent teachers' rate of BSP and EID accuracy generalized to other settings (e.g., lunchtime, recess). In a follow-up study, Dufrene et al. (2014) further evaluated the effects of *in situ* training on teacher and student behavior.

Dufrene et al. (2014) tested the effects of *in situ* training on two alternative education teachers' rate of BSP and the concomitant effects on students' level of disruptive behavior. One teacher's class had seven, kindergarten through third grade alternative education students while the other teacher's class had nine, fourth to sixth grade alternative education students. Similar to Dufrene et al. (2012), this study included didactic instruction before *in situ* training for both teachers which involved a description of BSP, the importance of providing BSP to students, and modeling and feedback of BSP (Dufrene et al., 2014). Unlike Dufrene et al. (2012), researchers in this study prompted teachers to provide one BSP statement per minute (as opposed to two per minute). Results indicated that both teachers increased their rate of BSP above baseline levels during *in situ* training. Moreover, students' level of disruptive behavior in both classrooms decreased below baseline levels; however, only one teacher maintained her rate of BSP after training was terminated.

Specifically, this teacher's rate of BSP decreased below baseline rates during maintenance with concurrent increases in student disruptive behavior. In response to the low rates of BSP delivered by this particular teacher, Dufrene and colleagues (2014) implemented an *in situ* training plus performance feedback phase. Performance feedback (Noell, Witt, Gilbertson, Ranier, & Freeland, 1997) involved reviewing graphed data with the teacher prior to the next day of data collection (Dufrene et al., 2014). After this phase, rate of BSP once again increased above baseline levels and remained above baseline levels during one- and two-month follow-up phases. Additionally, students' level of disruptive behavior decreased below baseline levels during the one- and two-month follow-up phases. Dufrene et al.'s (2014) results extend the DBC literature by

providing evidence for the effectiveness of *in situ* training in a novel setting (i.e., alternative school) with a novel population (i.e., alternative education students). This study also demonstrates that while some teachers may not maintain praise rates, additional consultation procedures (e.g., *in situ* training plus performance feedback) can be useful for promoting teachers' maintained use of BSP. It is important, however, to highlight some of the limitations of this study.

Similar to Dufrene et al. (2012), Dufrene et al. (2014) included an order effect that was a threat to internal validity. That is, it is unknown if didactic instruction followed by *in situ* training resulted in teacher behavior change, or if *in situ* training was solely responsible for teachers' increased rate of BSP. Limitations to external validity included the absence of data collected on teachers' rate of reprimands, students' display of appropriate behavior, and social validity. Furthermore, generalization data on teacher or student behavior were not collected. However, LaBrot et al. (2015) conducted a follow up study to Dufrene et al. (2012) and Dufrene et al. (2014) to address some of the aforementioned limitations.

LaBrot et al. (2015) tested the effects of *in situ* training on four Head Start after-care teachers' rates of praise. Teachers were referred by the after-care program director for needing consultation regarding behavior management techniques (LaBrot et al., 2015). To address the limitation regarding order effects from Dufrene et al. (2014) and Dufrene et al. (2012), LaBrot et al. (2015) did not include didactic instruction before *in situ* training. That is, all teachers began *in situ* training immediately following baseline data collection. *In situ* training involved prompting teachers with a one-way FM radio to

provide one praise statement (i.e., general praise statement, BSP statement, or physical praise) per minute to children engaging in appropriate behavior (LaBrot et al., 2015).

Results indicated that three of four teachers maintained their rate of praise during one-week and one-month follow-up (LaBrot et al., 2015). To extend previous *in situ* training studies conducted in school-based settings, LaBrot et al. (2015) also collected social validity data via the Consultation Acceptability Satisfaction Scale (CASS: LaBrot et al., 2015). Ratings on the CASS indicated that three of four teachers found *in situ* training to be an acceptable and effective consultation procedure (LaBrot et al., 2015). Interestingly, the teacher that provided low ratings of acceptability demonstrated the greatest increase in rate of praise during *in situ* training as well as the maintenance and one-month follow-up phases, relative to baseline. This study also extended the literature in that it eliminated the order effects found in Dufrene et al. (2014) and Dufrene et al.'s (2012) research design and still obtained results indicating that *in situ* training increased teachers' rates of praise and three of four teachers maintained increased praise rates in the absence of any other consultation procedures. Therefore, it can be concluded from the results of this study that *in situ* training was effective for improving teachers' rates of praise in absence of didactic training. One teacher, however, did not maintain her rate of praise during one-week follow-up.

For the one teacher for which praise did not maintain following termination of *in situ* training, a consultant re-implemented *in situ* training, which resulted in an immediate increase in praise; however, when training was again terminated, the teacher's praise decreased to rates commensurate with baseline. As a result, a consultant met with the teacher and engaged in collaborative problem-solving to identify a strategy for increasing

the teacher's praise. The teacher agreed to wear a tactile prompting device that would emit a vibration once every minute to prompt the teacher to praise. When tactile prompting was introduced the teacher increased her rate of praise. Unfortunately, additional maintenance data could not be collected due to the end of school year, so it is unknown whether the teacher would have maintained increased praise rates following removal of the prompting device. One limitation of LaBrot et al. (2015) was that researchers did not collect data for children's appropriate and problem behaviors. Therefore, the extent to which children's behavior improved as a function of increased praise is unknown. Additionally, data were not collected on teachers' rate of reprimands. A limitation of LaBrot and colleagues' (2015) operational definition of praise also warrants discussion. That is, praise was operationally defined to include general praise, physical praise (e.g., high fives), and BSP; thus it is not known what form of praise was utilized more frequently. Floress and Jenkins' (2015) data on natural rates of praise would suggest that BSP rates would likely be lower than general praise rates, however the data from LaBrot et al. (2015) could not support this finding in that data on particular types of praise (e.g., general, BSP) were not collected. Finally, data on teachers' generalized praise use were not collected.

Although recent studies have examined teachers' maintenance of skills acquired through school-based consultation, there is still a gap in this aspect of consultation literature. Consultation studies that have collected maintenance data suggest that teachers' do not always maintain skills acquired through consultation without additional behavior change procedures (e.g., performance feedback). Another area in need of

research in regard to school-based consultation is generalization. The following section will describe school-based consultation literature in regard to generalization.

Consultation and Training for Teacher Praise: Generalization

Generalization refers to the extent to which an individual emits a behavioral response in conditions in which the behavior was not trained (Cooper et al., 2007; Stokes & Baer, 1977). Generalization can occur in multiple forms including: generalization across (1) subjects, (2) settings, (3) individuals, (4) behaviors, and (5) time (Cooper et al., 2007; Stokes & Baer, 1977). The school-based consultation literature is limited with regard to which researchers have examined the extent to which consultation leads to teachers' generalized intervention use (Scheeler, 2008).

Riley-Tillman and Eckert (2001) conducted the first systematic evaluation of teachers' generalized use of praise following BC. Specifically, Riley-Tillman and Eckert (2001) evaluated the degree to which teachers generalized use of praise for a target student to non-target students. Participants included three general education teachers as well as three, seven- to eight-year-old, students referred for difficulties remaining on-task (Riley-Tillman & Eckert, 2001). This study utilized a multiple baseline design with the following phases: baseline, consultation, generalization prompt, and generalization training (Riley-Tillman & Eckert, 2001).

The consultation phase was similar to consultative procedures described by Bergan and Kratochwill (1990). That is, training included three separate interviews with participating teachers to (1) identify students' target behaviors, (2) assess classroom and environmental variables to develop and implement an intervention, and (3) evaluate the relative effectiveness of the intervention (Riley-Tillman & Eckert, 2001). During the

consultation phase, teachers were trained to provide praise to the target student contingent upon engaging in on-task behavior. Moreover, teachers were trained to provide four to five praise statements within a 20 minute classroom period.

Following consultation, researchers began to provide generalization prompts. That is, a statement was provided to teachers suggesting that non-target students may benefit from teacher praise (Riley-Tillman & Eckert, 2001). Results indicated that only one of three teachers provided praise above baseline levels to non-target students during the generalization prompt phase. For that reason, Riley-Tillman and Eckert (2001) implemented a generalization training phase for all three teachers. Generalization training involved an interview with teachers to review intervention goals and to discuss advantages of praising students and disadvantages of not praising students. Furthermore, researchers provided each teacher with a handout on intervention procedures. Results of the generalization training phase indicated that two of three teachers modestly increased praise for non-target students above generalization probe phase levels (Riley-Tillman & Eckert, 2001).

Riley-Tillman and Eckert's (2001) primary limitation concerned the manner in which phase change decisions were made. Phase changes occurred before a stable pattern of data was observed for some participants, which is a threat to this study's internal validity, and limits the extent to which changes in teachers' praise can be attributed to the consultation procedures. Teacher 2, in particular, did not meet the praise criterion established in this study (i.e., 75% above mean baseline rates) before the phase change to the generalization prompt phase. Therefore, it is unknown if teachers would have increased praise rates during generalization phases if they had been trained to meet

or exceed the 75% criterion. Finally, maintenance data on teachers' use of praise were not collected. Coffee and Kratochwill (2013) replicated Riley-Tillman and Eckert and obtained similar results.

Coffee and Kratochwill (2013) investigated the extent to which participants implemented and generalized use of praise across students. Participants in this study included four elementary school teachers and their students. Student participants were designated as one of the following: (1) the consultation target student, (2) the generalization target student, or (3) non-target students (Coffee & Kratochwill, 2013). Researchers trained teachers to provide approximately four to five praise statements within a 15 minute classroom period. Conditions were modeled from Riley-Tillman and Eckert's (2001) study, which consisted of consultation, generalization prompt, and generalization training phases (Coffee & Kratochwill, 2013). However, this study included a booster session during the consultation phase for teachers who did not increase their rate of praise.

Results of this study suggested the BC procedures were not effective for adequately increasing teachers' rate of praise during consultation or generalization conditions. One limitation of this study pertains to phase change decisions. Like Riley-Tillman and Eckert (2001), Coffee and Kratochwill (2013) changed from consultation to the generalization prompt phase in the absence of stable data. In fact, none of the teachers met the researchers' criterion (i.e., four to five praise statements per 15 minutes) prior to the phase change from intervention to generalization phases. Therefore, it is unknown whether continued training in the consultation phase until teachers met the praise criterion would have resulted in improved praise rates in the generalization

conditions. Given the results of Riley-Tillman et al. and Coffee and Kratochwill, it is clear that additional research is needed evaluating the effects of various consultation procedures on teachers' generalized intervention use.

Duncan et al. (2013) evaluated the effects of consultation with generalization training plus goal setting and a feedback note on teachers' use of BSP (termed specific-labeled praise). This study's participants included two general education teachers as well as a Head Start teacher and their students (20-25 students per classroom). Teachers referred a student in their classroom that engaged in disruptive behavior (e.g., off-task, out-of-area) and, through consultation, it was determined that BSP was an appropriate intervention for decreasing students' disruptive behaviors.

Phases in this study included baseline/consultation, goal setting plus feedback note, withdrawal of feedback note plus generalization prompt, generalization training plus goal setting and feedback note, and a follow-up condition (Duncan et al., 2013). The consultation phase involved providing teachers a hand-out on BSP as well as role playing, practice, and receiving performance feedback by a researcher. The goal setting plus feedback note phase included a researcher providing a teacher with a goal for rate of praise (individualized to each teacher) and a performance feedback note with data from the previous session (Duncan et al., 2013). Withdrawal of the feedback note plus generalization prompt consisted of a researcher removing the feedback note and asking teachers if they had considered providing BSP to other students.

The fourth phase, generalization plus goal setting and feedback note, involved setting goals with each teacher to provide BSP to non-target students and providing a feedback note that indicated whether or not a teacher met their goal (Duncan et al., 2013).

The daily goal for each teacher was a 50% increase in BSP provided to non-target students. Moreover, teachers were provided with a handout that described methods for praising appropriate behavior and ignoring minor disruptive behavior. Follow-up consisted of withdrawal of the feedback note and observing teachers' rate of BSP in absence of consultation procedures (Duncan et al., 2013).

Duncan et al. (2013) found that teachers increased their rate of BSP towards target students during the goal setting plus feedback note phase, but decreased after withdrawal. Generalized use of BSP was only observed during the generalization plus goal setting and feedback note phase, while noting that teachers provided BSP at the predetermined criterion to target students (Duncan et al., 2013). Furthermore, an increased rate of BSP resulted in concomitant decreases in student disruptive behavior (Duncan et al., 2013). The results of this study are similar to that of Riley-Tillman and Eckert (2001) and Coffee and Kratochwill (2013) in that teachers' use of praise did not generalize across students in a substantial manner despite labor intensive consultation procedures. More recent studies that evaluated *in situ* training, however, have demonstrated teachers' generalized use of BSP.

Taber (2014) evaluated the effectiveness of *in situ* training for increasing four high school teachers' rate of BSP in the classroom and students' corresponding decreases in disruptive behavior. Furthermore, Taber (2014) probed for generalized use of BSP across teachers' different class periods. The following phases were included in this study: (1) baseline, (2) *in situ* training, (3) maintenance, (4) generalization prompt (three of four participants), and (5) one-month follow-up. The *in situ* training phase consisted of prompting teachers to provide a BSP statement to a student engaging in appropriate

behavior once every two minutes via a one-way FM radio. Immediate increases in rate of BSP for all four teachers were observed during implementation of *in situ* training. Three of four teachers' rate of BSP declined during maintenance, so a performance feedback phase was implemented. Performance feedback involved a brief meeting in which graphed data were reviewed with the teacher. These three teachers rate of BSP increased following this performance feedback session. Three of four teachers also required a generalization prompt procedure, which consisted of a brief meeting in which a researcher reviewed graphed data (i.e., teacher and student) and suggesting that the increased use of BSP may result in decreased student disruptive behavior (Taber, 2014).

Results of this study indicated that one teacher maintained her rate of BSP, while three teachers increased their rate of BSP during the maintenance phase after implementation of the brief performance feedback procedure. Only one teacher increased her rates of BSP across class periods; however, three of four teachers' rate of BSP increased in generalization settings after a brief generalization prompt procedure (Taber, 2014). Increased rates of BSP were observed in one-month follow-up observations and generalization probes for all four teachers. Moreover, increased rates of BSP resulted in corresponding decreases in students' disruptive behavior in the classroom in both target and non-target class periods. Taber's (2014) study is important because it was the first DBC study to assess generalized teacher intervention implementation, and results indicated that *in situ* training paired with simple and brief performance feedback prompt promoted teachers' maintained and generalized use of BSP. Data from previous school-based consultation studies (i.e., Coffee & Kratochwill, 2013; Duncan et al., 2013; Riley-Tillman & Eckert, 2001) indicated that consultation in combination with labor intensive

behavior change procedures were only marginally effective for promoting teachers' generalized use of praise. Results reported in Taber (2014) demonstrated that *in situ* training and one brief performance feedback meeting and one brief generalization prompt was effective for promoting teachers' maintained and generalized use of BSP; however, this study was not without limitations.

First, this study was conducted in a high school setting; thus, the extent to which teachers in other settings (e.g., preschool classrooms) would generalize their use of BSP is unknown, thus limiting external validity. Another limitation to external validity involves the lack of data collection on teachers' rate of reprimands or students' display of appropriately engaged behavior. Therefore, it is unclear whether teachers' increased rate of BSP acquired during *in situ* training resulted in concomitant increases in students' appropriately engaged behavior. Nevertheless, these results are promising in regard to generalization of skills acquired through *in situ* training. Another study that evaluated the effectiveness of *in situ* training also demonstrated generalized use of teachers' BSP.

Nguyen (2015) investigated the effects of *in situ* training for increasing four elementary school teachers' (kindergarten through 3rd grade) use of BSP. This study also evaluated the extent to which teachers generalized their use of BSP to non-target students. The phases in this study included baseline, *in situ* training (termed bug-in-the-ear training), maintenance, and follow-up. Similar to Taber (2014), *in situ* training consisted of a researcher providing teachers with verbal prompts to provide a BSP statement to a student engaging in appropriate behavior once every two minutes. A performance feedback procedure was implemented with three of four teachers whose rate of BSP decreased below baseline levels during the maintenance phase. Performance

feedback included a brief meeting between the teacher and a researcher in which graphed data were reviewed (Nguyen, 2015). A generalization training procedure was implemented for three of four teachers who did not meet a generalization criterion (i.e., .25 BSP statements per minute) during the maintenance phase, which involved reintroducing *in situ* training and prompting teachers to provide one BSP statement to a randomly selected non-target student engaging in appropriate behavior every four minutes (Nguyen, 2015).

Nguyen (2015) found that *in situ* training was effective for increasing teachers' use of BSP, albeit with variable results during the maintenance phase for three of four teachers. Moreover, the results of this study suggest that *in situ* training paired with generalization training was effective for increasing teachers' use of BSP towards non-target students during maintenance and follow-up phases (Nguyen, 2015). However, student data were highly variable across all conditions, calling into question the degree to which teachers' increased use of BSP was effective for decreasing disruptive behavior. Nevertheless, Nguyen's (2015) data indicate teachers' generalized use of BSP to non-target students following *in situ* training plus generalization training for three of four teachers.

A limitation of this study is similar to that of previous literature (Coffee & Kratochwill, 2013, Duncan et al., 2013, Riley-Tillman & Eckert, 2001); that is, consultation required additional, labor intensive, behavior change procedures to promote teachers' generalized use of BSP. Another limitation involves the lack of data collection on teachers' rate of reprimands as well as students' appropriately engaged behavior. Finally, because this study was conducted in an elementary school setting, it is unclear

whether *in situ* training would be effective for increasing teachers' rate of BSP in other school settings.

At this time, there is a relative dearth of consultation research in which maintenance or generalization data are collected. Furthermore, school-based consultation studies suggest that even simple behavior change procedures (e.g., BSP) require resource intensive training that produce only minimal generalization gains (e.g., Coffee & Kratochwill, 2013; Duncan et al., 2013; Nguyen, 2015; Riley-Tillman & Eckert, 2001). Therefore, the school-based consultation literature is in need of studies that collect maintenance and generalization data. There is an emerging literature base testing *in situ* training that holds promise as an effective consultation procedure to promote maintenance (e.g., Dufrene et al., 2014; Dufrene et al., 2012; LaBrot et al., 2015) and generalization (e.g., Nguyen, 2015; Taber, 2014) of teachers' use of BSP; however, additional research is needed. Limitations to the current *in situ* training literature base that need to be addressed include lack of data collected on teacher rate of reprimands and student appropriately engaged behavior. Thus, it is important to continue to evaluate the effectiveness of *in situ* training for changing multiple teacher behaviors and novel concomitant student outcomes.

Purpose

The purpose of this study was to evaluate the efficacy of *in situ* training for increasing Head Start teachers' use of BSP immediately following consultation procedures, while probing for generalization in a non-target setting. To further extend the *in situ* training literature base, data was also collected on teachers' rate of reprimands (e.g., Zoder-Martell et al., 2014) to determine if these procedures are useful for

decreasing negative statements directed toward preschool children. Finally, as current *in situ* training studies have only evaluated children's level of disruptive behavior in response to teachers' increased BSP statements, this study measured both disruptive and appropriately engaged behavior (AEB). The following research questions were addressed:

Research Questions

1. Does *in situ* training increase Head Start teachers' use of BSP statements and do increases in BSP maintain following termination of training?
2. Does *in situ* training for increasing Head Start teachers' use of BSP result in a concomitant decrease in teacher reprimands that maintains following termination of training?
3. Does *in situ* training result in teachers' increased use of BSP in untrained settings?
4. Does *in situ* training result in teachers' decreased use of reprimands in untrained settings?
5. Does *in situ* training produce concomitant decreases in Head Start children's disruptive behavior?
6. Does *in situ* training produce concomitant increases in Head Start children's appropriately engaged behavior?
7. Do Head Start teachers rate *in situ* training as socially valid?
8. Do Head Start teachers rate BSP as a socially valid intervention for their children?

CHAPTER II – METHODS

Participants and Setting

The participants in this study were four female teachers, referred to by pseudonyms (i.e., Mrs. Lyons, Mrs. Atkins, Mrs. Doyle, and Ms. Abel), and their children from four Head Start classrooms in the southeastern United States. All classrooms were referred to the primary researcher by a teacher independently requesting assistance with classroom management.

This study was approved by the Institutional Review Board (IRB) at the University of Southern Mississippi (see Appendix A). Consent was obtained from the Head Start agency and the teachers prior to beginning data collection (See Appendices B and C). To be included in the study, teachers were observed to deliver less than .5 behavior specific praise statements (BSP) per minute during a 10-minute screening observation. Screening observations were conducted during an activity that teachers indicated disruptive behavior occurred with the greatest frequency. A brief meeting was conducted with teachers who met the screening criterion to identify and operationally define target behaviors as well as activities in which disruptive behaviors frequently occurred.

This study was conducted at four Head Start centers. Each Head Start classroom was comprised of 20 children ranging from three to five years of age. This Head Start agency managed 26 Head Start and Early Head Start centers in two counties. Demographics included approximately 99% minority children (i.e., 68% African American, 16% biracial or multiracial, 15% Hispanic). All children were of low SES, as Head Start enrollment criteria require family income at or below the federal poverty line.

The Head Start centers had been implementing School-Wide Positive Behavior Interventions and Supports (SWPBIS; Horner, Sugai, & Anderson, 2010) for the duration of the school-year in which this study was conducted.

Mrs. Lyons

Mrs. Lyons (33-year-old African American) was a first-year teaching assistant and held an Associate's degree in general studies. A teaching assistant, as opposed to a lead teacher, participated as she expressed interest in learning improved classroom management techniques. Carpet time was the target setting in which Mrs. Lyons was trained. During carpet time, the lead teacher reviewed basic concepts (e.g., shapes, colors, days of the week) with the class. Children were expected to sit on a rug, look at and listen to the teacher, and raise their hand to respond to teacher questions. Generalization observations were conducted during center time, which consisted of several activities (e.g., art area, housekeeping) in which children chose one area to interact with a day. During center time, children were expected to stay in their area, keep hands and feet to themselves, and actively engage with materials in their area.

Mrs. Atkins

Mrs. Atkins (59-year-old African American) was a lead teacher and held a Bachelor's degree in education. Mrs. Atkins had been a Head Start teacher for 35 years prior to the beginning of the study. Carpet time was the target setting in which Mrs. Atkins was trained, and involved reviewing basic concepts with the class. Children were expected to sit on a rug, look at and listen to the teacher, and raise their hand quietly to respond to teacher questions. Generalization observations were conducted during lunch time in the classroom, which consisted of children sitting in a chair at a table and eating

or drinking. During lunch time children were allowed to speak to each other at a volume appropriate for a classroom setting.

Mrs. Doyle

Mrs. Doyle (39-year-old African American) was a lead teacher with a Bachelor's in child and family development. Mrs. Doyle had been a Head Start teacher for five years prior to the beginning of the study. Carpet time was the target setting in which Mrs. Dole was trained, and involved reviewing basic concepts with the class. Children were expected to sit on a rug, look at and listen to the teacher, and raise their hand quietly to respond to teacher questions. Generalization observations were conducted during center time, which consisted of several activities (e.g., art area, housekeeping) in which children chose one area to interact with a day. During center time, children were expected to stay in their area, keep hands and feet to themselves, and actively engage with materials in their area.

Ms. Abel

Ms. Abel (28-year-old African American) was a lead teacher with a Bachelor's in child and family studies. Ms. Abel had been a Head Start teacher for five years prior to the beginning of the study. Story time was the target setting in which Ms. Abel was trained. Story time involved Ms. Abel reading a story from a book and asking children questions about what she had read. Children were expected to sit on a rug, look at and listen to the teacher, and raise their hand to respond to teacher questions. Generalization observations were conducted during lunch time in the classroom, which consisted of children sitting in a chair at a table and eating or drinking. During lunch time children were allowed to speak to each other at a volume appropriate for a classroom setting.

Materials

One-way FM radio

A one-way FM radio was utilized to provide real-time, verbal prompts to teachers. The one-way FM radio included a transmitter with a small microphone and a receiver with a single ear bud. This device allowed the primary researcher to provide unobtrusive prompting.

Instruments

Consultation Acceptability and Satisfaction Scale (CASS)

The CASS (See Appendix D; LaBrot et al., 2015) is a 12-item rating scale scored on a 6-point Likert-scale, with scores ranging from 0 (strongly disagree) to 5 (strongly agree). CASS items evaluate teachers' perceptions of the acceptability, appropriateness, and effectiveness of consultation procedures. Currently, there are no technical adequacy data for the CASS.

The Behavior Intervention Rating Scale (BIRS)

The BIRS (See Appendix E) was used to assess teachers' perceptions of the social validity of BSP as a classroom management technique. The BIRS is a 24-item questionnaire ranging from 1 (strongly disagree) to 6 (strongly agree) that measures individuals' perceptions on treatment acceptability, effectiveness, and time to intervention effectiveness (Elliot & Treuting, 1991). Higher scores on the BIRS indicate favorable perceptions of the social validity of an intervention. Factor analysis by Elliot and Treuting (1991) identified three factors for the BIRS: Acceptability (63% of variance), effectiveness (6% of variance), and time of effectiveness (4.3% of variance). Furthermore, a coefficient alpha yielded an alpha level of .97 for the entire scale;

suggesting high internal consistency. The acceptability, effectiveness, and time subscales yielded alphas of .97, .92, .87, respectively.

Dependent Measures and Data Collection Procedures

The primary dependent variable for this study was teachers' rate of BSP. Teachers' BSP was recorded manually using observation coding forms. BSP was defined as any response dependent, specific-labeled praise statement that included a description of the behavior being praised (e.g., "Thank you for raising your hand."). Teachers' rate of BSP was recorded using an event recording procedure in which frequency of BSP statements within 10 s intervals were recorded, converted to a rate-based measure, and reported as number of BSP statements per minute during 10-minute observation sessions. Teacher rate of reprimands was a secondary dependent variable in this study. Reprimands were defined as any statements directed towards a child that involved asking the child to stop a behavior (e.g., "Stop talking", "Don't do that"), telling a child he or she will be punished (e.g., "I'm going to take that toy away from you"), corrective statements (e.g., "You shouldn't do that"), or any verbal statement that calls attention to disruptive behavior. Rate of reprimands was recorded in the same manner as teacher-delivered BSP. Rate of teachers' BSP and reprimands were recorded within 10 s intervals so as to be as conservative as possible when calculating interobserver agreement (IOA).

Children's disruptive and appropriately engaged behavior were also coded. Appropriately engaged behavior (AEB) was defined as a child actively or passively engaged (e.g., looking at or manipulating objects related to task demand) in a designated classroom activity with their eyes and body oriented toward the teacher or activity. Disruptive behavior (DB) included non-compliance (i.e., failure to initiate a teacher

request within five seconds of delivery), inappropriate vocalizations (i.e., cursing, speaking without permission, and speaking at a volume inappropriate for a classroom), out-of-area (i.e., two or more feet outside of a specified area), and playing with objects (i.e., playing with any object unrelated to the task-demand). Ten children were selected at random prior to the start of the observation to be included in data collection. Children's names were written on a slip of paper and drawn from a plastic bag. After ten children had been selected, their names were not put back into the plastic bag until all children in the classroom had been observed so as to obtain an inclusive measure of classroom behavior. AEB and DB were recorded using a momentary time sampling (MTS) method during 10-minute observation sessions (i.e., concurrent with coding for teacher BSP and reprimands). MTS was selected as the coding scheme because it has been found to provide a more accurate representation of behavior than other coding schemes (e.g., partial interval; Radley, O'Handley, & LaBrot, 2015). At the end of a 10 s interval, the observer looked at one of ten children in a predetermined order and indicated whether they were engaged in AEB or DB; while noting that it was possible to record the absence of both. The observer then observed the next child in the same manner. Observing alternating children continued until the 10-minute observation was complete. AEB and DB were reported as the percentage of intervals of occurrence.

For at least every third observation session, a generalization probe was conducted on the same school day in a pre-selected activity where *in situ* training did not occur. These observations were conducted by a member of the research team not associated with *in situ* training to minimize the threat of teacher reactivity.

Observations were conducted by graduate students who had been previously trained to code a variety of teacher and child behaviors to a 90% agreement criterion. The primary researcher trained all observers on the operational definitions and coding schemes included in this study. When IOA fell below 90% for any observation, operational definitions of teacher and children's behavior were thoroughly reviewed and observers were retrained until the 90% criterion was met again with the primary researcher. Prior to each observation, a primary observer was identified and that observer's scores were included in the graphs. Observers sat in an unobtrusive location in the classroom while conducting observations and used a digital audio device that provided audio prompts for the end of each interval.

Experimental Design and Data Analysis

A multiple baseline design (Cooper et al., 2007) across teachers with probing for generalization was used to evaluate the effectiveness of *in situ* training on Head Start teachers' rate of BSP and reprimands in target and generalization settings. Data for the first two participants were collected concurrently (i.e., early fall semester), while data for the next two participants were also collected concurrently one month later (i.e., middle fall semester). Data were collected during the following phases: baseline, *in situ* training, maintenance, two week follow-up (Mrs. Lyons, Mrs. Atkins, and Ms. Abel), three week follow-up (Mrs. Doyle), one month follow-up (Ms. Abel), and two month follow-up (Mrs. Lyons and Mrs. Atkins). Visual analysis was used to evaluate level, trend, variability, immediacy of effects, proportion of data that overlapped, magnitude of changes in outcome variables, and consistency of data patterns (Horner et al., 2005; Kazdin, 2011).

This experimental design meets evidence standards for single-case design set forth by the What Works Clearinghouse (Kratochwill et al., 2010). Specifically, (1) the independent variable was systematically manipulated across teachers with the primary researcher determining changes in conditions based on visual analysis of data, (2) dependent variables were systematically measured over time by more than one observer with IOA collected across each condition, (3) this study included four attempts to demonstrate intervention effectiveness at four points in time with four phase repetitions, (4) and there were 18 phases in total with at least five data points per phase. Therefore, this is a rigorous experimental research design.

In addition to visual analysis of the data, an effect size was calculated. Tau-U is a non-parametric effect size calculation for evaluating non-overlap data between two phases (Parker, Vannest, Davis, & Sauber, 2011). Tau-U can test for a baseline trend in an undesired direction so the trend can be corrected for in the effect size calculation (Vannest & Ninci, 2015). Tau-U effect size scores ranging from 0-.20 are considered small effects, scores ranging from .20-.60 are considered moderate effects, scores ranging from .60-.80 are considered large effects, and scores above .80 are considered a very large effect (Vannest & Ninci, 2015). Tau-U scores were calculated for teacher and children's behavior, in which baseline data were compared to combined data across maintenance, two week follow-up, three week follow-up, one month follow-up, and two month follow-up for both target and generalization settings for an effect size score so as to evaluate the overall effects of DBC on teacher use of BSP statements across an extended period of time.

Procedures

Baseline

Teachers were not provided with any instructions or feedback regarding classroom management. Observers sat in an unobtrusive location in the classroom and observed both teacher and children's behavior.

In situ training

Following the baseline phase, the primary researcher met with the teacher to review baseline data. The researcher explained that increased use of BSP could result in improved classroom behavior. A researcher then explained the *in situ* training procedure to the teacher, including the use of the one-way FM radio and the criterion for the rate of BSP (i.e., one BSP prompt per minute). During *in situ* training, a one-way FM radio was utilized to prompt the teacher to deliver one BSP statement every minute (e.g., LaBrot et al., 2015). Observers sat in an unobtrusive location in the classroom and used a timer to determine one minute intervals. At each one minute interval, the researcher scanned the room, identified a child engaged in appropriate classroom behavior, and prompted the teacher to deliver a BSP statement to that child (e.g., "You are doing a great job sitting!"). The teacher then repeated, verbatim, the BSP statement. The researcher prompted the teacher to provide a BSP statement regardless of whether or not the teacher emitted an unprompted BSP statement. The researcher did not provide teachers with any instructions or feedback regarding classroom management outside of training sessions.

Maintenance

The maintenance phase began on the first school day immediately after the final training session. During the maintenance phase, teachers were not provided with

training, instructions, or feedback regarding classroom management. Observers sat in an unobtrusive location in the classroom and conducted observations of both teacher and children's behavior in the same manner as previous phases. If teachers' rate of BSP fell below a criterion of .5 BSP statements per minute (LaBrot et al., 2015), additional consultation procedures would have been implemented.

Two week, three week, one month, and two month follow-up

Follow-up phases were conducted two weeks (Mrs. Lyons, Mrs. Atkins, and Ms. Abel), three weeks (Mrs. Doyle), one month (Ms. Abel), and two months (Mrs. Lyons and Mrs. Atkins) after the maintenance phase to determine if the teachers' rate of BSP maintained as well as the level of children's AEB and DB. A three week follow-up phase was conducted for Mrs. Doyle as she was absent during the week in which a two week follow-up would have occurred. A one month follow-up phase was conducted for Ms. Abel because only two target and generalization observations had been conducted during the two week follow-up phase due to the start of the Head Start agency's Spring Break. Finally, a two month follow-up phase was conducted for Mrs. Lyons and Mrs. Atkins to determine the extent to which their rate of BSP and children's display of AEB and DB behavior maintained over a long period of time.

Phase Change Decisions

Phase changes were determined by visual analysis of level, trend, and stability of data. That is, the first classroom to begin *in situ* training was chosen based on a low, stable rate of BSP statements during baseline. The baseline phases for each participating teacher consisted of a minimum of 5, 7, 9, and then 11 data points in the order in which they became eligible for participation in the study (Kratochwill et al., 2013). When there

was a high and stable rate of BSP statements provided by a teacher in a given classroom, *in situ* training was implemented in the next classroom displaying low, stable rates of BSP as well as having met the minimum criterion for data points (i.e., 5, 7, 9, or 11). *In situ* training included five sessions in which Head Start teachers demonstrated a rate of BSP greater than or equal to one BSP statement per minute.

Interobserver Agreement, Procedural Integrity, and Treatment Integrity

Interobserver agreement (IOA) data were collected for observation sessions for all dependent variables across all phases. This involved a primary and secondary observer sitting in an unobtrusive location in the classroom simultaneously collecting teacher and children's data. Agreement for teacher use of BSP and reprimands was calculated by dividing the number of agreed upon BSP statements and reprimands within intervals by the number of agreed and disagreed upon BSP statements and reprimands within intervals and multiplying the quotient by 100. Agreement for children's AEB and DB was calculated by dividing the number of agreed intervals with AEB and DB by the number of agreed and disagreed upon intervals with AEB and DB and multiplying the quotient by 100.

IOA data were collected for 47% of the observations in Mrs. Lyons' class where *in situ* training occurred, with a mean agreement of 96.67% (range: 75-100%) for rate of BSP and reprimands and 94.27% (range: 88-98%) for children's display AEB and DB. IOA data were collected for 16.67% of generalization probes, with a mean agreement of 100% for rate of BSP and reprimands and 95% (range: 91.67-98.33%) for children's display of AEB and DB.

IOA data were collected for 52% of the observations in Mrs. Atkins' class where *in situ* training occurred, with a mean agreement of 92.37% (range: 82.35-100%) for rate of BSP and reprimands and 93.50% (range: 90-98.33%) for children's display of AEB and DB. IOA data were collected for 23.08% of generalization probes, with a mean agreement of 96.33% (range: 89-100%) for rate of BSP and reprimands and 96.11% (range: 93.33-98.33%) for children's display of AEB and DB.

IOA data were collected for 54.17% of the observations in Mrs. Doyle's class where *in situ* training occurred, with a mean agreement of 94.21% (range: 85.71-100%) for rate of BSP and reprimands and 93.13% (range: 88.33-100%) for children's display of AEB and DB. IOA data were collected for 41.67% of generalization probes, with a mean agreement of 91.75% (range: 77.78-100%) for rate of BSP and reprimands and 95% (range: 90-100%) for children's display of AEB and DB.

IOA data were collected for 37.04% of the observations in Ms. Abel's class where *in situ* training occurred, with a mean agreement of 97.50% (range: 86.67-100%) for rate of BSP and reprimands and 94.11% (range: 90-100%) for children's display of AEB and DB. IOA data were collected for 35.71% of generalization probes, with a mean agreement of 93.33% (range: 83.33-100%) for rate of BSP and reprimands and 94% (range: 86.67-100%) for children's display of AEB and DB.

Procedural integrity data were collected for all phases using checklists for each phase. The checklist for the baseline phase (See Appendix F) included items indicating that the observers sat in an unobtrusive location in the classroom and teachers were not given any instructions or feedback regarding classroom management. The checklist for *in situ* training (See Appendix G) included items indicating (1) the researcher provided

the teacher with the one-way FM radio, (2) the researcher ensured the one-way FM radio was "on" and that the volume was at an appropriate level, (3) the researcher instructed the teacher to return to the ongoing activity, and (4) the researcher prompted the teacher to deliver one BSP statement to a child engaged in appropriate behavior every minute. The maintenance and follow-up checklists included the same items as the baseline phase procedural integrity checklist (See Appendix H and I). Procedural integrity was evaluated for 100% of observations, across all conditions. Procedural integrity was calculated by dividing the number of steps completed accurately by the total number of steps on the checklist and multiplying the quotient by 100. IOA for procedural integrity was collected across all conditions. IOA for procedural integrity was calculated by dividing the number of agreed upon steps by the number of agreed upon plus disagreed upon steps and multiplying the quotient by 100.

IOA for procedural integrity data were collected for 47%, 52%, 54.17%, and 37.04% of observations where *in situ* training occurred for Mrs. Lyons, Mrs. Atkins, Mrs. Doyle, and Ms. Abel, respectively, with agreement of 100% for all participants. IOA for procedural integrity data were collected for 16.67%, 23.08%, 41.67%, and 35.71% of generalization probes for Mrs. Lyons, Mrs. Atkins, Mrs. Doyle, and Ms. Abel, respectively, with agreement of 100% for all participants.

Treatment integrity data were collected for 100% of the sessions during the *in situ* training phase for all participants. The treatment integrity checklist (See Appendix J) for the *in situ* training phase included items indicating the teacher wore the one-way FM radio and provided a BSP statement, as prompted by the researcher, every minute. IOA for treatment integrity was calculated by dividing the number of agreed upon steps by the

number of agreed upon plus disagreed upon steps and multiplying the quotient by 100. IOA for treatment integrity data were collected for 40% (Mrs. Lyons, Mrs. Doyle, and Ms. Abel) and 60% (Mrs. Atkins) of observations where *in situ* training occurred, with agreement of 100% for all participants.

CHAPTER III - RESULTS

Results for teachers' rate of BSP and reprimands for target and generalization settings are displayed in Figure 1. Results for children's display of AEB and DB for target and generalization settings are displayed in Figure 2.

Mrs. Lyons

During baseline, Mrs. Lyons did not deliver any BSP in the target (i.e., carpet time) or generalization (i.e., center time) settings. Mean rate of reprimands during baseline was .06 (range: 0-.1) in the target setting and .2 in the generalization setting. Mean percentage of children's display of AEB and DB during baseline in the target setting was 67.53% (range: 60-73.33%) and 27% (range: 20-35%), respectively. Children displayed AEB and DB for 71.67% and 23.33% of observed intervals in the generalization setting, respectively.

During *in situ* training, an immediate increase in rate of BSP was observed in the target (M = 1.64; range: 1.4-1.8) and generalization (1.65; range: 1.6-1.7) settings. There was a slight decrease in rate of reprimands in the target (M = .02; range: 0-.1) and generalization (M = .05; range: 0-.1) settings during *in situ* training. An immediate increase in children's display of AEB (M = 85%; range: 76.67-91.67%) and decrease in DB (M = 10.67%; range: 6.67-15%) was observed during *in situ* training. Mean percentage of children's display of AEB (M = 69.17%; range: 65-73.33%) and DB (M = 20.83%; range: 18.33-23.33%) in the generalization setting were commensurate with baseline levels.

During the maintenance phase, Mrs. Lyons' rate of BSP (M = 1.36; range: .6-1.6) slightly decreased but remained above the pre-determined criterion (i.e., .5 BSP per

minute) in the target setting, while rate of BSP in the generalization setting was variable (*M* = 1; range .1-2.4). Mrs. Lyons did not deliver any reprimands in the target or generalization setting during the maintenance phase. While slightly more variable, children's display of AEB (*M* = 84.67%; range: 68.33-93.33%) and DB (*M* = 10.33%; range: 3.33-21.67%) in the target setting were similar to that of the *in situ* training phase. Mean percentage of children's display of AEB and DB in the generalization setting during the maintenance phase was 86.67% (range: 76.67-98.33%) and 7.78% (range: 1.67-13.33%), respectively.

At two week follow-up, Mrs. Lyons' rate of BSP (*M* = .7; range: .4-1.1) decreased below *in situ* training and maintenance levels, but remained above the .5 criterion (with the exception of one datum). Mean percentage of Mrs. Lyons' rate of BSP in the generalization setting was .45 (range: .3-.6). Mrs. Lyons' rate of reprimands at two week follow-up remained low and stable in both target (*M* = .4; range: 0-.1) and generalization (*M* = .15; range: 0-.3) settings. Children's display of AEB in target (*M* = 85.67%; range: 80-95%) and generalization (*M* = 78.33%) settings remained high and stable. Children's display of DB in target (*M* = 6.33%; range: 3.33-10%) and generalization (*M* = 15.83%; range: 5-13.33%) settings remained low and stable.

At two month follow-up, Mrs. Lyons' mean rate of BSP in target (*M* = .93; range: .4-1.9) and generalization (*M* = .73; range: .5-1) settings remained above the criterion level. Mrs. Lyons' rate of reprimands remained low and stable in target (*M* = 0) and generalization (*M* = .07; range: 0-.2) settings. Children's display of AEB remained high and stable (*M* = 89.45%; range: 86.67-91.67%), while display of DB remained low and stable (*M* = 5%; range: 1.67-8.33%) in target settings. Mean percentage of children's

display of AEB and DB in the generalization setting was 92.22% (range: 88.33-95%) and 2.22% (range: 0-3.33%), respectively.

Mrs. Atkins

During baseline, mean rate of BSP for Mrs. Atkins was .37 (range: .1-.6) in the target setting (i.e., carpet time), while no BSP was delivered in the generalization setting (i.e., lunch time). Mrs. Atkins rate of reprimands was variable, delivering a mean of .37 (range: 0-1.5) reprimands in the target setting and .6 (range: .2-1) in the generalization setting. Children's mean display of AEB and DB in the target setting was 69.29% (range: 61.67-75%) and 14.05% (range: 8.33-23.33%), respectively. Children's mean display of AEB and DB in the generalization setting was 76.67% (range: 71.67-81.67%) and 16.67% (range: 13.33-20%), respectively.

During *in situ* training, an immediate increase in Mrs. Atkins' rate of BSP was observed in the target (M = 2.22; range: 1.7-2.4) and generalization (M = .83; range: .1-1.9) settings. Furthermore, an immediate and stable decrease in Mrs. Atkins' rate of reprimands was observed in the target setting (M = .08; range: 0-.3), but remained commensurate with baseline levels in the generalization setting (M = .73; range: .4-1.4). An immediate increase in children's display of AEB (M = 94.34%; range: 85-96.67%) and gradual decrease in display of DB (M = 4.33%; range: 0-8.33%) was observed in the target setting during *in situ* training. Mean percentage of children's display of AEB and DB in the generalization setting during *in situ* training was 90% (range: 81.67-95%) and 10% (range: 5-18.33%), respectively.

During maintenance, Mrs. Atkins' rate of BSP was variable but remained above the criterion (i.e., .5 BSP per minute) with a mean of 1.37 (range: .9-2) in the target

settings. Mean rate of Mrs. Atkins' BSP in the generalization setting was .53 (range: .1-.9) during maintenance. Mean rate of Mrs. Atkins' rate of reprimands in the target and generalization settings was .03 (range: 0-.2) and .13 (range: 0-.4), respectively. Children's display of AEB remained high and stable (*M* = 92.22%; range: 90-95%), while display of DB remained low and stable (*M* = 2.5%; range: 0-6.67%) in the target setting during maintenance. Children's display of AEB remained high and stable (*M* = 97.22%; range: 96.67-98.33%), while display of DB remained low and stable (*M* = 2.78%; range: 1.67-3.33%) in the generalization setting during maintenance.

At two week follow-up, Mrs. Atkins' rate of BSP remained at or above the criterion in the target (*M* =1.1; range: 1-1.3) and generalization (*M* = .7; range: .5-.9) settings. Mrs. Atkins' rate of reprimands decreased to a low and stable level in the target setting (*M* = .03; range: 0-.1). Mrs. Atkins' did not deliver any reprimands in the generalization setting at two week follow-up. Mean percentage of children's display of AEB and DB in the target setting at two week follow-up was 91.11% (range: 88.33-95%) and 3.89% (range: 1.67-6.67%), respectively. Mean percentage of children's display of AEB and DB in the generalization setting at two week follow-up was 93.33% (range: 88.33-98.33%) and 3.3% (range: 1.67-5%), respectively.

At two month follow-up, Mrs. Atkins' rate of BSP continued to remain above the predetermined criterion in the target (*M* = .88; range: .6-1.1) and generalization (*M* = .75; range: .6-.9) settings. Mrs. Atkins' rate of reprimands remained low and stable in the target setting (*M* = .13; range: 0-.3). Mrs. Atkins' did not deliver any reprimands in the generalization setting at two month follow-up. Mean percentage of children's display of AEB and DB in the target setting at two month follow-up was 85.97% (range: 83.33-

88.89%) and 7.32% (range: 5-9.26%), respectively. Mean percentage of children's display of AEB and DB in the generalization setting at two month follow-up was 87.5% (range: 86.67-88.33%) and 6.67%, respectively.

Mrs. Doyle

During baseline, Mrs. Doyle's mean rate of BSP was .3 (range: 0-.6) in the target setting (i.e., carpet time) and .14 (0-.3) in the generalization setting (i.e., center time). Mrs. Doyle's mean rate of reprimands was .1 (range: 0-.3) and .14 (range; 0-.3) during baseline in the target and generalization settings, respectively. Mean percentage of children's display of AEB and DB in the target setting during baseline was 64.38% (range: 50-80%) and 26.73% (range: 15-41.67%), respectively. Mean percentage of children's display of AEB and DB in the generalization setting during baseline was 81.67% (range: 73.33-88.33%) and 13% (range: 5-25%), respectively.

During *in situ* training, there was an immediate increase in level in Mrs. Doyle's rate of BSP in the target setting (M = 2.64; range: 2.3-3). Mean rate of BSP in the generalization setting was .6 (range: .3-.9). Mrs. Doyle's mean rate of reprimands during *in situ* training was .02 (range: 0-.1) and .3 (range: 0-.6) in target and generalization settings, respectively. An immediate and stable increase in children's display of AEB (M = 89.33%; range: 83.33-91.67%), with an immediate and stable decrease in display of children's DB (M = 5%; range: 3.33-8.33%) was observed in the target setting during *in situ* training. Mean percentage of children's display of AEB and DB in the generalization setting during *in situ* training was 90% (range: 83.33-96.67%) and 1.67% (range: 0-3.3%), respectively.

During maintenance, Mrs. Doyle's rate of BSP remained high and stable in target (*M* = 2.72; range: 1.4-3.3) and generalization (*M* = 1.47; range: .9-2.1) settings. Mrs. Doyle's rate of reprimands remained low and stable during maintenance in target (*M* = .1; range: 0-.2) and generalization (*M* = .1; range: 0-.2) settings. Mean percentage of children's display of AEB and DB in target settings during maintenance was 93.67% (range: 90-98.33%) and 4.33% (range: 0-6.67%), respectively. Mean percentage of children's display of AEB and DB in generalization settings during maintenance was 87.78% (range: 85-90%) and 4.44% (range: 0-8.33%), respectively.

At three week follow-up, Mrs. Doyle's rate of BSP remained above criterion in target (*M* = 1.39; range: .9-1.7) and generalization (*M* = 1.43; range: .8-2.1) settings. Mrs. Doyle did not deliver any reprimands in the target or generalization settings during three week follow-up. Remaining stable, mean percentage of children's display of AEB and DB in the target setting at three week follow-up was 93.45% (range: 90-95.83%) and 4.56% (range: 2.08-6.67%), respectively. Also remaining stable, mean percentage of children's display of AEB and DB in the generalization setting at three week follow-up was 93.89% (range: 91.67-96.67%) and 3.33% (range: 1.67-5%), respectively.

Ms. Abel

During baseline, Ms. Abel's mean rate of BSP was .05 (range: 0-.2) in the target setting and .03 (range: 0-.1) in the generalization setting. Ms. Abel's mean rate of reprimands during baseline was high and variable, with a mean of .51 (range: 0-1.1) in the target setting and .56 (range: 0-1.5) in the generalization setting. Mean percentage of children's display of AEB and DB in the target setting during baseline was 60.74% (range: 44.44-75%) and 26.04% (range: 16.67-38.89%), respectively. Mean percentage

of children's display of AEB and DB in the generalization setting was 79.58% (range: 66.67-93.33%) and 15% (range: 11.67-21.67%), respectively.

During *in situ* training, there was an immediate increase in Ms. Abel's rate of BSP in target (*M* = 1.78; range: 1.5-2) and generalization (*M* = .47; range: .1-.8) settings. There was an immediate and stable decrease in Ms. Abel's rate of reprimands in target (*M* = .04; range: 0-.1) and generalization (*M* = .17; range: .1-.2) settings. An immediate increase in children's display of AEB (*M* = 86.02%; range: 75-91.67%) and an immediate decrease in children's display of DB (*M* = 8%; range: 3.33-11.66%) was observed in target settings during *in situ* training. Mean percentage of children's display of AEB and DB in the generalization setting during *in situ* training was 92.22% (range: 91.67-93.33%) and 3.33%, respectively.

During maintenance, Ms. Abel's rate of BSP decreased, but remained above criterion levels in the target setting (*M* = 1.04; range: .7-1.5). However, Ms. Abel's rate of BSP increased during maintenance in the generalization setting (*M* = 1.17; range: 1-1.5). Ms. Abel's rate of reprimands remained low and stable in target (*M* = .02; range: 0-.1) and generalization (*M* = .03; range: 0-.1) settings. Mean percentage of children's display of AEB in the target setting was high and stable (*M* = 91.33%; range: 88.33-95%), while children's display of DB was low and stable (*M* = 2.33%; range: 0-6.67%) during maintenance. An increasing trend in children's display of AEB in the generalization setting was observed (*M* = 95.55%; range: 93.33-98.33%), while a decreasing trend in children's display of DB was observed (*M* = 1.11%; range: 0-1.67%) during maintenance.

At two week follow-up, Ms. Abel's rate of BSP remained above criterion in target (*M* = 1.05; range: 1-1.1) and generalization (*M* = .95; range: .8-1.1) settings. Ms. Abel's rate of reprimands remained low and stable at two week follow-up in target (*M* = .05; range: 0-.1) and generalization (*M* = .05; range: 0-.1) settings. Children's display of AEB remained high and stable at two week follow-up (*M* = 95.84%; range: 95-96.67%), while display of DB remained low and stable (*M* = 1.67%) in the target setting. Mean percentage of children's display of AEB and DB at two week follow-up in the generalization setting was 94.17% (range: 91.67-96.67%) and 5% (range: 3.33-6.67%), respectively.

At one month follow-up, Ms. Abel's rate of BSP remained above criterion in target (*M* = .79; range: .5-1.14) and generalization (*M* = .98; range: .86-1.1) settings. Ms. Abel's rate of reprimands remained low and stable in the target setting (*M* = .08; range: 0-.1) at one month follow-up. Ms. Abel did not deliver any reprimands in the generalization setting at one month follow-up. Mean percentage of children's display of AEB and DB in the target setting at one month follow-up was 96.31% (range: 95-98.33%) and 2.42% (range: 0-4.67%), respectively. Mean percentage of children's display of AEB and DB in the generalization setting at one month follow-up was 95.48% (range: 93.33-97.62%) and 2.5% (range: 0-5%), respectively.

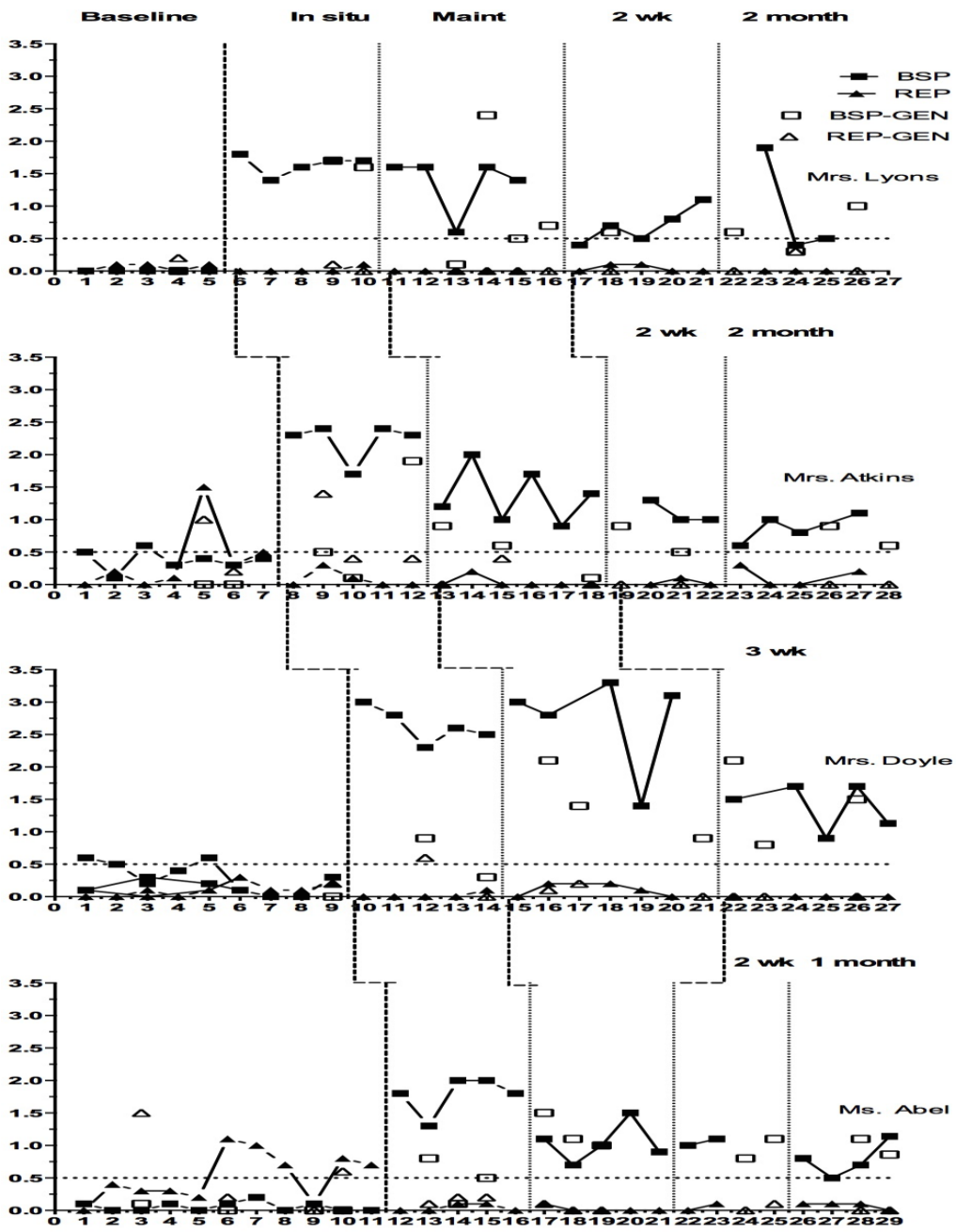

Figure 1. Teacher's rate of behavior specific praise and reprimands

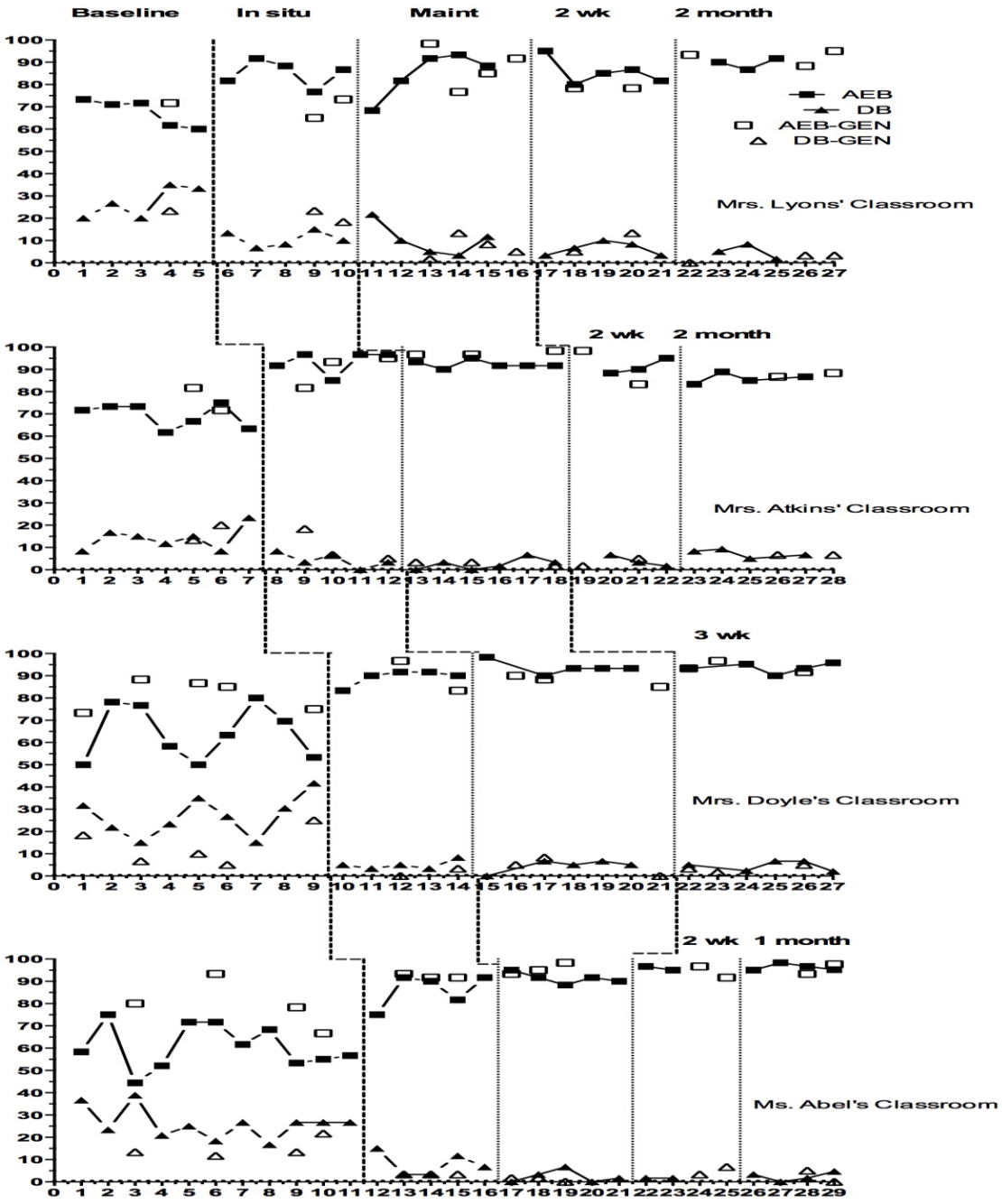

Figure 2. Percentage of children's display of appropriately engaged and disruptive behavior

Tau-U effect size calculations for teachers' rate of BSP and reprimands in target and generalization settings are displayed in Table 1 and children's display of AEB and DB in target and generalization settings are displayed in Table 2. Results indicate *in situ* training had very large effects on teachers' rate of BSP in target and generalization settings, while moderate to very large effects were found for rate of reprimands in target and generalization settings. There were large to very large effects on children's AEB in target and generalization settings, with moderate to very large effects on children's DB in target and generalization settings.

Table 1

Tau-U Effect Size Calculations – Teachers Rate of BSP and Reprimands

	BSP	**BSP-GEN**	**REP**	**REP-GEN**
Mrs. Lyons	1**	1**	.45	.67*
Mrs. Atkins	.99**	1**	.49	.67*
Mrs. Doyle	1**	1**	.32	.50
Ms. Abel	1**	1**	.83**	.68*

Note. ** is Very Large Effect and * is Large Effect

Table 2

Tau-U Effect Size Calculations – Children's Display of AEB and DB

Teacher's Children	AEB	AEB-GEN	DB	DB-GEN
Mrs. Lyons' children	.91**	1**	.94**	1**
Mrs. Atkins' children	1**	1**	.52	1**
Mrs. Doyle's children	1**	.80*	1**	.80*
Ms. Abel's children	1**	.86**	1**	1**

Note. ** is Very Large and * is Large Effect

Social Validity

CASS

Each teacher completed the CASS at the conclusion of data collection. All teachers rated *in situ* training procedures with the highest possible mean score (i.e., 5), indicating they found it a highly acceptable and beneficial consultation procedure.

BIRS

Each teacher completed the BIRS at the conclusion of data collection. Mrs. Lyons, Mrs. Atkins, and Mrs. Doyle's ratings on the BIRS indicated they found BSP to be acceptable, effective, and had rapid time to effectiveness with a mean score of 6 (highest possible score). Ms. Abel's overall ratings on the BIRS (i.e., 5.38) indicated she found BSP to be a socially valid behavior change procedure; with scores of 5.6, 5.71, and

5.5 for the individual BIRS' factors of acceptability, effectiveness, time to effectiveness, respectively.

CHAPTER IV – DISCUSSION

Bergan's (1977) model of consultation, behavioral consultation (BC), has accumulated a great deal of empirical support for its effectiveness in educational settings for supporting teachers and enhancing student outcomes (e.g., Busse et al., 1999; Chiyito & Wheeler, 2009; Erchul & Martens, 2012; Erchul & Sheridan, 2014; Mautone et al., 2006; Noell et al., 2005; Sheridan et al., 1996). Since its conceptualization, derivations of BC (e.g., DBC and Conjoint Behavioral Consultation; Dufrene et al., 2012; Sheridan & Kratochwill, 2007; Watson & Sterling-Turner, 2008) have been conceptualized, developed, and tested in school settings so as to offer additional and possibly more effective school-based consultation strategies for improving teacher and student outcomes. *In situ* training, for example, is a DBC strategy that has limited, but emerging empirical support as an effective consultation strategy (e.g., Dufrene et al., 2014; Dufrene et al., 2012; LaBrot et al., 2015; Nguyen, 2015; Taber, 2014; Zoder-Martell et al., 2014). The purpose of this study was to further evaluate the effects of *in situ* training for improving Head Start teachers' classroom management strategies and concomitant children outcomes. Discussion of the results of this study is organized by research question, a description of limitations and future research directions, and implications for applied practice in educational settings.

Research Questions 1 and 2

The first research question pertained to whether *in situ* training via a one-way radio would increase Head Start teachers' use of BSP and if results would maintain following termination of training. Visual analysis and evaluation of effect sizes indicate that *in situ* training was effective for increasing and maintaining all four Head Start

teachers' rate of BSP above a predetermined criterion (i.e., .5 BSP statements per minute) and baseline levels. Although all four Head Start teachers' rate of BSP decreased below levels observed in the *in situ* training phase, rates of BSP generally remained above the predetermined criterion following termination of consultation. This thought to have occurred for two reasons. First, teachers were both positively and negatively reinforced for increasing their rate of BSP. That is, as rate of BSP increased, children's AEB increased (i.e., positive reinforcement) while DB decreased (i.e., negative reinforcement). Second, teachers were trained under the exact conditions in which they were expected to deliver BSP; therefore, they came into contact with naturally occurring stimuli and reinforcers during training which allowed them to more clearly discriminate the benefits of increasing rate of BSP.

This finding is commensurate with previous research evaluating *in situ* training (e.g., Dufrene et al., 2014; Dufrene et al., 2012; LaBrot et al., 2015; Zoder-Martell et al., 2014) in which treatment integrity of a behavior management technique decreased following termination of consultation, but still remained above baseline levels of performance. A unique strength of this study is maintenance data were collected for all four Head Start teachers and indicated rates of BSP maintained without the need of additional consultation procedures. Other studies evaluating *in situ* training had to employ additional consultation procedures to promote maintenance of some teachers' classroom management strategies or have limited maintenance data. For example, LaBrot et al. (2015) employed a tactile prompt for a teacher who did not maintain rates of praise following *in situ* training. Although this procedure increased this teacher's rate of praise, additional maintenance data could not be collected following termination of the

tactile prompt. Similarly, Dufrene et al. (2012) were not able to collect maintenance data for one teacher as she resigned her position prior to the conclusion of the study. Dufrene et al. (2014), Taber (2014), and Zoder-Martell (2014) utilized performance feedback procedures (Noell et al., 1997) for some teachers who did not maintain rates of BSP following *in situ* training. This involved re-implementation of *in situ* training (i.e., Dufrene et al., 2014), showing teachers graphed data of their performance (i.e., Dufrene et al., 2014; Taber, 2014), and explaining the benefits of BSP and positive statements as behavior management strategies (i.e., Dufrene et al., 2014; Taber, 2014; Zoder-Martell et al., 2014).

Another strength of the current study involves the length of time Head Start teachers' were observed to maintain their rates of BSP. That is, maintenance data were collected the next school day (all teachers), two weeks (Mrs. Lyons, Mrs. Atkins, and Ms. Abel), three weeks (Mrs. Doyle), one month (Ms. Abel), and two months (Mrs. Lyons and Mrs. Atkins) following *in situ* training; in which all four Head Start teachers' rates of BSP remained above the predetermined criterion and baseline rates. Several school-based consultation studies failed to collect data following termination of consultation procedures (e.g., Capella et al., 2012; Carter & Van Norman, 2010; Dart et al., 2012; DiGennaro et al., 2007; DiGennaro et al., 2005; Jones et al., 1997; Lerman et al., 2004; Scheeler et al., 2011; Sheridan et al., 2012). Moreover, some school-based consultation studies that have collected data following termination of consultation procedures do not offer a great deal of support that teachers maintain use of skills acquired through consultation (e.g., Dufrene et al., 2014; Hiralall & Martens, 1998; LaBrot et al., 2015). Results of the current study bolster the school-based consultation literature in that results

indicate *in situ* training was effective for increasing and maintaining rates of BSP for all four Head Start teachers across a prolonged period of time (i.e., up to two months).

The second research question was in regard to whether *in situ* training for increasing Head Start teachers' rate of BSP resulted in concomitant decreases in rate of reprimands and if results maintained following termination of consultation. Visual analysis and evaluation of effects sizes indicate rate of reprimands did not change substantially for Mrs. Lyons, Mrs. Atkins, and Mrs. Doyle. An intervention effect for rate of reprimands was not observed for these three teachers due to a floor effect, as their rate of reprimands from baseline to the conclusion of the study remained stable and low. That is, these three teachers' rates of reprimands were consistently too low for a meaningful intervention effect to be observed. Visual analysis and evaluation of effect sizes of Ms. Abel's rate of reprimand data, however, indicate there was a very large intervention effect for decreasing rate of reprimands. During baseline, Ms. Abel's rate of reprimands was variable and ranged from 0 to 1.1 reprimands per minute. During *in situ* training, Ms. Abel's rate of reprimands decreased to low and stable levels and was maintained up to one month following termination of consultation. Results of this study are commensurate with those of Zoder-Martell et al. (2014) in that rate of negative verbal interactions decreased for only one participant as the other participants' rate of negative verbal interactions were too low to allow for a meaningful intervention effect. This study extends the school-based consultation literature in that it was the first study to test the effectiveness of *in situ* training for decreasing rate of reprimands without specifically training teachers to decrease reprimands. That is, in the current study, *in situ* training involved prompting teachers to increase their rate of BSP, but no feedback was given

regarding teachers' rate of reprimands. Strong conclusions about the effectiveness of *in situ* training to increase rate of BSP and concurrently decrease rate of reprimands cannot be made due to the fact that an intervention effect was only observed for one teacher in the current study.

Research Questions 3 and 4

The third research question pertained to whether *in situ* training resulted in teachers' increased use of BSP in untrained settings. Visual analysis and evaluation of effects sizes indicate all four Head Start teachers' rate of BSP increased and maintained above baseline levels across all phases in untrained settings following *in situ* training. Both Mrs. Lyons and Mrs. Atkins rate of BSP in untrained settings fell below the predetermined criterion (i.e., .5 BSP statements per minute) during one session in their respective maintenance phases. However, their rates of BSP increased to or above the predetermined criterion during the next observation and remained above the criterion for the remainder of data collection. The results of this study extend the school-based consultation literature in that all four Head Start teachers' use of BSP generalized to settings in which *in situ* training did not occur. Previous studies evaluating *in situ* training (e.g., Dufrene et al., 2014; Dufrene et al., 2012; LaBrot et al., 2015; Zoder-Martell et al., 2014) did not evaluate teachers' generalized use of BSP. Moreover, research examining *in situ* training in which generalization data were collected (e.g., Duncan et al., 2013; Taber, 2014; Nguyen, 2015) had to employ additional consultation procedures to promote some teachers' generalization of classroom management techniques. For example, Taber (2014) delivered a brief generalization prompt (i.e., showing teachers graphed data of their performance and explaining the benefits BSP) for

three of four high school teachers who did not generalize use of BSP to settings in which *in situ* training did not occur. Moreover, Nguyen (2015) re-implemented *in situ* training with three of four elementary school teachers who did not generalize use of BSP to novel students. Therefore, the results of the current study are important because *in situ* training led to generalized use of BSP across all phases for all four Head Start teachers without the need for additional consultation procedures.

In general, the school-based consultation literature is limited with regard to the extent to which researchers have examined teachers' generalized use of behavior management techniques trained through consultation (e.g., Colton & Sheridan, 1998; Jones et al., 1997; Moore et al., 2002; Noell et al., 2005; Sanetti, Chafouleas, Fallon, & Jaffrey, 2014; Scheeler, 2008; Stormont et al., 2007; Wilkinson, 1997). Furthermore, when consultation studies have evaluated generalization, results indicated minimal generalization (e.g., Coffee & Kratochwill, 2013; Mitchell & Kratochwill, 2013; Riley-Tillman & Eckert, 2001). The current study provides support for a teacher training procedure for increasing BSP that may result in generalization without specifically programming for generalization.

The fourth research question was in regard to whether *in situ* training resulted in teachers' decreased use of reprimands in untrained settings. Visual and statistical analyses indicate there were moderate (Mrs. Doyle) to large (Mrs. Lyons, Mrs. Atkins, and Ms. Abel) effect sizes for decreasing rate of reprimands in untrained settings; albeit with variable data across all study phases for each participant. These results help extend the school-based consultation literature in that data were collected on teachers' rate of reprimands in untrained settings. Previous *in situ* training research only evaluated one

teacher behavior (e.g., BSP and general praise; Dufrene et al., 2014; Taber, 2014; Nguyen, 2015). Although Zoder-Martell et al. (2014) collected data on direct care staff's rate of positive statements and reprimands (termed negative statements), data were not collected on direct care staff's rate of positive statements and reprimands in untrained settings. Therefore, the current study is important because results demonstrate that *in situ* training to increase teachers' rate of BSP could lead to decreased use of reprimands in untrained settings. However, this conclusion cannot be drawn from previous *in situ* training research that did not collect data on rate of reprimands in settings in which consultation did not occur (Dufrene et al., 2014; Dufrene et al., 2012; LaBrot et al., 2015; Taber, 2014; Nguyen, 2015; Zoder-Martell et al., 2014).

Research Questions 5 and 6

The fifth research question pertained to whether *in situ* training produced concomitant decreases in Head Start children's DB. Visual analysis and evaluation of effect sizes demonstrate *in situ* training produced decreases below baseline levels in children's DB in training settings for Mrs. Lyons, Mrs. Doyle, and Ms. Abel's classrooms, across all study phases. A moderate effect size (i.e., .52) was obtained for Mrs. Atkins' children's display of DB. However, visual analysis of Mrs. Atkins' children's display of DB indicate immediate and sustained decreases during *in situ* training, maintenance, and two week follow-up phases. During the two month follow-up phase, however, Mrs. Atkins' children's display of DB increased slightly. These results are commensurate with previous *in situ* training research evaluating students' display of DB (e.g., Dufrene et al., 2014; Dufrene et al., 2012; Taber, 2014) and provide added support for *in situ* training's effectiveness for improving student outcomes.

Results of the current study also indicate *in situ* training was effective for producing large (Mrs. Doyle) to very large (Mrs. Lyons, Mrs. Atkins, and Ms. Abel) concomitant decreases in children's display of DB in untrained settings, across all study phases. Taber (2014) found weak to strong effects for high school students' decreased display of DB in untrained settings; therefore, a strength of the current study is larger effects (i.e., large to very large) for Head Start children's decreased display of DB in untrained settings was observed. This could have occurred due to the Head Start children's developmental level; that is, preschool children may be more amenable to positive reinforcement in the form of BSP (i.e., positive social reinforcement; Cooper et al., 2007) and therefore more likely to refrain from engaging in DB following a teacher-delivered BSP statement. Nevertheless, similar to Dufrene et al. (2012), the current study provides additional support for the effectiveness of *in situ* training for producing decreased levels of children's display of DB in untrained settings.

The sixth research question was in regard to whether *in situ* training produced concomitant increases in Head Start children's display of AEB. Visual analysis and evaluation of effect sizes indicate that *in situ* training was effective for producing concomitant increases in Head Start children's display of AEB above baseline levels for all four Head Start teachers' children in settings in which *in situ* training occurred, across all study phases. Similarly, Zoder-Martell et al. (2014) found increased positive interactions following *in situ* training for three of four adult residents in a residential facility, with positive interactions defined as "any verbalization or gesture that indicated pleasure or social exchange between the resident and the DCS [direct care staff] or another resident, and any attempts for the resident to request assistance from the DCS in a

manner appropriate to his/her developmental level and communicative ability" (p. 2183). The results of the current study extend the school-based consultation literature in that this is the first *in situ* training study that collected data on children's display of AEB.

This is important because previous *in situ* training research in which teachers were trained to increase their rate of BSP (i.e., Dufrene et al., 2014; Dufrene et al., 2012; Taber, 2014; Nguyen, 2015) only collected data on students' display of DB. BSP is defined as statements of approval that reference a specific behavior (Brophy, 1981; Floress and Jenkins, 2015; Jenkins et al., 2015). So, this study evaluated a socially valid replacement behavior (i.e., Head Start children's display AEB) because BSP is specifically designed to describe and positively reinforce children's display of AEB. Additionally, results of this study indicate that *in situ* training was effective for producing concomitant increases in Head Start children's display of AEB in untrained settings, across all study phases. This also extends the school-based consultation literature in that it was the first *in situ* training study that collected data on Head Start children's display of AEB in settings in which training did not occur.

Research Questions 7 and 8

The seventh research question pertained to whether Head Start teachers rated *in situ* training as a socially valid consultation procedure. All four Head Start teachers' ratings on the CASS (LaBrot et al., 2015) indicate they found *in situ* training to be a socially valid and beneficial consultation procedure. This finding is commensurate with the results of LaBrot et al. (2015), Nguyen (2015), Taber (2014), and Zoder-Martell et al. (2014) in that teachers generally rated *in situ* training as a socially valid and effective consultation procedure. Head Start teachers in the current study may have rated *in situ*

training as a highly socially valid and effective consultation procedure because it was a relatively brief procedure (i.e., 10 minutes per day for 5 days) that was effective for increasing teachers' rate of BSP in trained and untrained settings, which produced concurrent improvements in Head Start children's behaviors in the classroom.

Finally, the eighth research question was in regard to whether Head Start teachers rated BSP as a socially valid intervention for their children. All four Head Start teachers' ratings on the BIRS (Elliot & Treuting, 1991) indicate they found BSP to be acceptable, effective, and had good time to effectiveness. Although only one previous *in situ* training study (i.e., Nguyen, 2015) assessed teachers' perceptions of BSP, results of the current study are commensurate with other studies in which teachers rated or reported BSP as a socially valid and effective intervention (e.g., Burnett & Mandel, 2010; Chalk & Bizo, 2004; Duchaine et al., 2011; Stevens, Sidener, Reeve, & Sidener, 2011; Thompson, Marchant, Anderson, Prater, & Gibb, 2012).

Limitations and Future Directions

Although the current study extends the school-based consultation literature in several important ways, there are limitations that warrant discussion. First, only four Head Start teachers were included in this study; therefore, it is unknown if these results would be similar for other Head Start teachers in centers located in various geographic locations (e.g., urban) with different child populations (e.g., greater percentage of White children). Previous literature suggests that *in situ* training can be effective for improving Head Start teachers' performance (e.g., Dufrene et al., 2012; LaBrot et al., 2015); however, future research should seek to replicate the current study so as to further validate *in situ* training as an effective school-based consultation procedure for improving

teachers' classroom management techniques. Second, only Head Start teachers were included in this study. So, it is unknown if similar results would be found with elementary, middle, secondary, or special education teachers. Future research should evaluate the effectiveness of *in situ* training with teachers in education settings other than Head Start classrooms (e.g., Dufrene et al., 2014; Taber, 2014; Nguyen, 2015; Zoder-Martell et al., 2014).

Third, results of the current study indicate that rate of reprimands were not significantly changed for three of four Head Start teachers in which *in situ* training occurred. This is thought to have occurred because of a floor effect observed for these three Head Start teachers' rates of reprimands during baseline (i.e., rate of reprimands was too low and stable to allow for an intervention effect) and because teachers were not specifically trained to decrease reprimands. Although rate of reprimands did decrease for one teacher (i.e., Ms. Abel), additional studies are warranted to determine if *in situ* training that targets BSP also reduces teachers' delivery of reprimands. To address the floor effect observed in this study, as well that of Zoder-Martell et al. (2014), future researchers may include screening criterion such that only teachers that deliver low rates of BSP and high rates of reprimands are included in the study.

Fourth, all of the Head Start teachers in this study were self-referred for consultation to improve classroom management skills and subsequent children outcomes, potentially biasing how responsive teachers were to *in situ* training. Head Start teachers in LaBrot et al. (2015) were referred by a program director for needing consultation and results indicated increased rates of praise following *in situ* training. However, future research should evaluate the effectiveness of *in situ* training for improving teachers'

classroom management skills who were identified as requiring consultation by administrative staff or through a formalized referral process so as to decrease the likelihood of teachers' biased responses to consultation.

A fifth limitation of the current study involves the limited amount of generalization data collected during baseline for Mrs. Lyons and Mrs. Atkins. Only one and two generalization observations occurred during baseline for Mrs. Lyons and Mrs. Atkins, respectively. Therefore, their baseline rates of BSP and reprimands may not be an adequate sample of those behaviors. Future research should seek to conduct at least three observations of teacher behavior in generalization settings during baseline.

Finally, it is possible that changes in Head Start teachers' use of BSP was attributable to reactivity to the presence of observers. That is, Head Start teachers may have increased their use of BSP in response to the presence of observers in both trained and untrained settings. Attempts to control for reactivity were employed by (1) having observers sit in an unobtrusive location in the classroom and (2) not allowing experimenters who conducted *in situ* training to conduct observations in generalization settings. However, given there were a limited number of observers in this study (i.e., 4), Head Start teachers may have reacted to observers' presence. Future research should attempt to control for teacher reactivity to observers by including more observers.

In regard to other future directions for research, *in situ* training may be considered a component of a response-to-consultation model (e.g., Myers, Simonsen, & Sugai, 2011; O'Handley, Dufrene, & Whipple, in press; Sanetti & Collier-Meek, 2015; Simonsen et al., 2014; Thompson et al., 2012). This would involve a three-tiered approach to teacher consultation, in which Tier 1 consisted of universal training (e.g., large in-service

training). Teachers who consistently fail to implement effective classroom management techniques with integrity following Tier 1 would be transitioned to Tier 2, which may include targeted consultation procedures such as weekly performance feedback (Myers et al., 2011), tactile prompts (O'Handley et al., in press), intervention implementation planning (Sanetti & Collier-Meek, 2015), self-monitoring (Simonsen et al., 2014), or video self-monitoring (Thompson et al., 2012). For teachers who fail to respond to Tier 2 consultation procedures, a Tier 3 consultation technique, such as *in situ* training, may be implemented. *In situ* training may be considered a Tier 3 consultation procedure as it is quite a bit more labor-intensive than other procedures and involves a somewhat invasive (i.e., bug-in-ear device to be worn) procedure.

Implications for Applied Practice

The current study provides further support for the use of *in situ* training via a one-way radio device for increasing Head Start teachers' use of BSP in trained and untrained settings and producing concomitant improvements in Head Start children's behavior. Although support for the effectiveness of *in situ* training is still emerging, school-based practitioners and researchers are encouraged to test these consultation procedures as results of previous *in situ* training studies and the current study are promising. Nevertheless, the following recommendations are offered.

When providing school-based consultation, consultants should carefully monitor teachers' response to consultation as well as student outcomes. In doing so, consultants should choose outcome measures that are empirically supported. In this study, direct observations of teachers' rate of BSP were recorded using frequency counts that were done in a reliable fashion. Additionally, children's outcomes were measured via

momentary time sampling of DB and AEB, which is a reliable and valid measure of students' performance in the classroom (Radley et al., 2015). If consultants are unable to conduct frequent direct-observations, then alternative procedures, such as permanent product measurement (e.g., LaBrot et al., 2016) may be considered.

If teachers respond to consultation as evidenced by data collected on treatment integrity of a classroom management technique and improved student outcome data, brief periodic follow-up meetings can be scheduled to determine the need for further consultative services. Conversely, if data indicate teachers are not implementing classroom management procedures with integrity, consultants should consider implementing more intensive consultation procedures (e.g., daily performance feedback; Duncan et al., 2013).

In addition to determining if teachers are implementing strategies targeted during consultation, consultants may also determine the need to evaluate teachers' generalized intervention implementation. If a consultant determines that generalization is important, and data indicate teachers are not generalizing use of a classroom management technique across settings or children, school-based consultants should consider implementing generalization programming techniques based on recommendations from Stokes and Baer (1977).

Conclusion

The current study demonstrated that *in situ* training was effective for increasing and maintaining Head Start teachers' use of BSP in trained and untrained settings, which produced concomitant improvements in Head Start children's behavior that maintained in trained and untrained settings. Although this study extends the school-based consultation

literature by addressing several limitations of previous *in situ* training research, it is not without limitations. Therefore, future research that seeks to replicate these findings and collect data on new dependent variables is warranted and encouraged.

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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: 15102002
PROJECT TITLE: Maintenance and Generalization of Preschool Teachers' use of Behavior Specific Praise Following In Situ Training
PROJECT TYPE: New Project
RESEARCHER(S): Zachary LaBrot
COLLEGE/DIVISION: College of Education and Psychology
DEPARTMENT: Psychology
FUNDING AGENCY/SPONSOR: N/A
IRB COMMITTEE ACTION: Expedited Review Approval
PERIOD OF APPROVAL: 10/26/2015 to 10/25/2016

Lawrence A. Hosman, Ph.D.
Institutional Review Board

APPENDIX B – Agency Consent Form

PEARLRIVER VALLEY OPPORTUNITY, INC.

HEAD START/EARLY HEAD START

August 11, 2015
Mrs. Zachary C. LaBrot, M.A.
School Psychology Program
University of Southern Mississippi

Dr. Mr. LaBrot,

You have my permission to use data gathered at our PRVO Head Start centers in your ongoing research on the effects of direct behavioral consultation on teachers' use of behavior specific praise and children's appropriate and disruptive behavior. We firmly believe this project would be very beneficial to our program and will enhance the services that we provide our children and families.

Thank you for considering our program. If our agency can be of further assistance please do not hesitate to contact me.

Sincerely,

Jonh E. Hales, Director
PRVO Head Start/Early Head Start

APPENDIX C – Teacher Consent Form

Title of Study: Maintenance and Generalization of Preschool Teachers' use of Behavior Specific Praise Following In situ Training

Study Site: Pear River Valley Opportunity Head Start/Early Head Start Agency

Name of Researcher & University affiliation: Zachary C. LaBrot, M.A.

The University of Southern Mississippi

Dear Teacher,

We are conducting a research study to evaluate the effects of *in situ* direct behavioral consultation to improve the overall class behavior. Provided you qualify for the study, you will be trained to improve your use of classroom management techniques. The training procedure will involve a one-way FM radio to deliver prompts to help you implement effective behavior management strategies in the classroom. Observations of student behavior will be conducted to determine whether or not trained behavior management techniques result in concomitant improvement in student behavior. Procedures will last approximately 10 minutes a day, 3-5 times per week.

Benefits for participating in this research may include improvements in student behavior performance and gaining skills to implement evidence-based behavior management techniques. Minimal risks are associated with participation in this study. You may experience some mild discomfort as a result of being prompted. The primary investigator has a Masters of Arts in School Psychology will be available for further consultation to ameliorate any issues that may occur as a result of the training procedure. Participation is voluntary and you may withdraw at any time without penalty, prejudice, or loss of benefits.

Will this information be kept confidential?

Your name and behavior information will be kept confidential. To protect your privacy, you will be assigned a number. This number will be placed on all paper work. At no time will any paperwork contain your name. Please note that these records will be held by a state entity and therefore are subject to disclosure if required by law.

Who do I contact with research questions? If you should have any questions about this research project, please feel free to contact Zachary LaBrot, M.A. at 601-266-5255 or Dr. Brad A. Dufrene at 601-266-5256. If you have any questions regarding your rights as a research participant, please feel free to contact the USM Institutional Review Board at 601-255-5509.

What if I do not want to participate?

Please understand that your participation is voluntary, your refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue your participation at any time without penalty or loss of benefits.

What if I DO want to participate? If you would like to participate, please sign the bottom of this sheet. You may keep the second copy for your records.

_____ _____

Participant Signature Date

_____ _____

Investigator Signature Date

APPENDIX D – Consultation Acceptability and Satisfaction Scale (LaBrot et al., 2015)

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

APPENDIX E – Behavior Intervention Rating Scale (BIRS; Elliot & Treuting, 1991)

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 students.	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
12. The intervention is reasonable for the behavior problem described.	1	2	3	4	5	6

APPENDIX F – Procedural Integrity for Baseline

Teacher: _____ Date: _____

Observer: _____ Class Period: _____

	Steps	Yes	No
1	Observers sat in a nonobtrusive location in the classroom.		
2	No instructions, prompts, or feedback were provided to the teacher.		

	Number of steps completed:	/2
	Percentage of steps completed:	

APPENDIX G – Procedural Integrity for *In Situ* Training

Teacher: _____ Date: _____

Observer: _____ Class Period: _____

	Steps	Yes	No
1	The researcher provided the teacher with the one-way FM radio.		
2	Researcher ensured the one-way FM radio was "on" and that the volume was at an appropriate level.		
3	Researcher instructed the teacher to return to the ongoing activity.		
4	Researcher prompted the teacher to deliver one BSP statement to a student engaged in appropriate behavior every minute.		

	Number of steps completed:	/4
	Percentage of steps completed:	

APPENDIX H – Procedural Integrity for Maintenance

Teacher: _____ Date: _____

Observer: _____ Class Period: _____

	Steps	Yes	No
1	Observers sat in a nonobtrusive location in the classroom.		
2	No instructions, prompts, or feedback were provided to the teacher.		

	Number of steps completed:	/2
	Percentage of steps completed:	

APPENDIX I – Procedural Integrity for Generalization

Teacher: _____ Date: _____

Observer: _____ Class Period: _____

	Steps	Yes	No
1	Observers sat in a nonobtrusive location in the classroom.		
2	No instructions, prompts, or feedback were provided to the teacher.		

	Number of steps completed:	/2
	Percentage of steps completed:	

APPENDIX J – Behavior Specific Praise Treatment Integrity

Teacher: _____ Date: _____

Observer: _____ Class Period: _____

	Steps	Yes	No
1	Teacher wore the one-way FM radio.		
2	Teacher provided one behavior specific praise statement, as prompted by the researcher, every minute.		

	Number of steps completed:	/2
	Percentage of steps completed:	

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