

2006

An examination of the relationship between the presence of critical components of classroom positive behavior support and student behavior

Gregory S. Ern
University of South Florida

Follow this and additional works at: <https://digitalcommons.usf.edu/etd>



Part of the [American Studies Commons](#)

Scholar Commons Citation

Ern, Gregory S., "An examination of the relationship between the presence of critical components of classroom positive behavior support and student behavior" (2006). *USF Tampa Graduate Theses and Dissertations*.

<https://digitalcommons.usf.edu/etd/2518>

This Dissertation is brought to you for free and open access by the USF Graduate Theses and Dissertations at Digital Commons @ University of South Florida. It has been accepted for inclusion in USF Tampa Graduate Theses and Dissertations by an authorized administrator of Digital Commons @ University of South Florida. For more information, please contact digitalcommons@usf.edu.

An Examination of the Relationship Between the Presence of Critical Components
of Classroom Positive Behavior Support and Student Behavior

by

Gregory S. Ern

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Psychological and Social Foundations
College of Education
University of South Florida

Major Professor: George Batsche, Ed.D.
Michael Curtis, Ph.D.
Don Kincaid, Ed.D.
Robert Dedrick, Ph.D.

Date of Approval:
June 30, 2006

Keywords: PBS, classroom-level, school discipline, key features, teachers

© Copyright 2006, Gregory S. Ern

Dedication

There are so many people who have encouraged and supported me in this pursuit. Sincere appreciation goes to my wife, Natalie, for her patience, love, and sacrifice during this long journey. I would like to thank my wonderful sons, Max and Peter, for giving their dad a reason to keep his “chin up” when things got tough. They are my inspiration. I would also like to thank my mom for always encouraging me to live my dreams. Finally, thank you to Dr. Jamie Robison for his friendship and for always being available when I needed a listening ear.

To anyone who is in pursuit of a dream...

“...if you have faith as small as a mustard seed...Nothing will be impossible for you.”

Matthew 17:20

Acknowledgments

Special thanks go out to Katrina Prosser and Lisa Estevez for their countless hours in the coordination of participant recruitment and data collection. Without their help, the implementation of this study would not have been possible. I would also like to thank the principals, teachers, and students from among the schools in Indian River, Martin, and Polk County School Districts for agreeing to participate in this study. Finally, much gratitude is owed to my doctoral committee (George Batsche, Mike Curtis, Robert Dedrick, and Don Kincaid) for their guidance and support in this endeavor. I have learned a great deal from each one of them.

TABLE OF CONTENTS

LIST OF TABLES	iii
LIST OF FIGURES	iv
ABSTRACT	v
CHAPTER I: INTRODUCTION	1
Rationale for the Study	4
Purpose of the Study	6
Research Questions and Hypotheses	6
Research Question #1	6
Hypotheses	6
Research Question #2.1	6
Research Question #2.2	7
Hypotheses	7
Research Question #3	7
Hypotheses	7
CHAPTER II: REVIEW OF THE LITERATURE	8
Common Problem Behaviors That Interfere With Learning	9
Using Systems-Level Interventions to Improve Effectiveness	12
Classroom-Level Supports	14
Defining Behavioral Expectations	15
Directly Teaching Expectations	15
System for Rewarding Behavioral Expectations	17
System for Responding to Behavioral Violations	19
Summary	20
Effective Classroom Management	20
Student Engagement	20
Transition Routines	21
Effective Praise	21
Summary	22
Identifying Key Features	22
School-Wide Features	22
SET	23
Classroom Features	24
TACL-PBS	24
Measures of Program Effectiveness	27
Office Discipline Referrals	27

Direct Observation Data	27
Summary	28
CHAPTER III: METHOD	29
Introduction	29
Research Design	29
Sample	29
School Selection	29
Classroom Selection	31
Student Selection	32
Instrumentation	33
Tool for Assessing Classroom-Level: Positive Behavior Support (TACL-PBS)	33
Psychometric Analyses	36
Reliability	37
Internal Consistency	37
Inter-rater Agreement	39
School-Wide Benchmarks of Quality (SW-BOQ)	39
Outcome Measures	41
Classroom Observation Method	41
Office Discipline Referrals	42
School-Wide Information System (SWIS)	42
Procedures/Data Collection	44
Interviewer/Observer Training	44
Informed Consent	45
Conducting Interviews and Observations	46
CHAPTER IV: RESULTS	49
Research Question #1	49
Research Question #2.1	54
Research Question #2.2	54
Research Question #3	59
Summary	62
CHAPTER V: DISCUSSION	63
Overview	63
Discussion of Research Findings	65
Summary	70
Delimitations and Limitations	70
Directions for Future Research	72
REFERENCES	74
APPENDICES	84
ABOUT THE AUTHOR	End Page

LIST OF TABLES

Table 1	School-level Demographics	30
Table 2	Student Enrollment by Race/Ethnicity	31
Table 3	Descriptive Statistics for TACL-PBS Item, Domain, and Total Scores	36
Table 4	Domain and Total Score Internal Consistency Reliabilities	37
Table 5	Item/Subscale, Item/Total, and Subscale/Total Correlations	38
Table 6	Benchmarks of Quality Scores for Participating Schools	41
Table 7	Outcome Measures for Individual Classrooms	43
Table 8	Correlations between Classroom Components and Outcomes	51
Table 9	Descriptive Statistics for Aggregated Mean Scores and Outcomes	55
Table 10	Intercorrelations Among TACL-PBS Domains	55
Table 11	Multiple Regression Analysis Results for Aggregated Model (N = 39)	57
Table 12	Summary of Multiple Regression Analysis Involving Each Data Collection Method	58
Table 13	Correlations between TACL-PBS and BOQ Scores by Method	61

LIST OF FIGURES

Figure 1.	Illustration of Item Format by PBS Feature	35
Figure 2.	Scatter plot of standardized residuals and standardized predicted values for ODR's (pre-)	52
Figure 3.	Scatter plot of standardized residuals and standardized predicted values for ODR's (post-)	53
Figure 4.	Scatter plot of standardized residuals and standardized predicted values for percent of students on-task	53

An Examination of the Relationship Between the Presence of Critical Components of
Classroom Positive Behavior Support and Student Behavior

Gregory S. Ern

ABSTRACT

This purpose of this study was to assess the relationship between the presence of classroom components of positive behavior support and student behavior outcomes. Data were collected using the Tool for Assessing Classroom Level-Positive Behavior Support (TACL-PBS) developed by Ern (2005) to assess the presence or absence of critical components of positive behavior support at the classroom level. Descriptive data on the instrument including the internal consistency, interrater agreement, and concurrent validity were analyzed and are included in this report. Forty classrooms from among ten diverse elementary schools in three school districts were selected to participate in this study. Office discipline referral (ODR) information and rates of on-task behavior were collected for each classroom and were correlated with the presence of the classroom components. Data were collected using teacher interview, student interview, and direct observation methods. In all, 40 teacher interviews, 116 student interviews, and 39 classroom observations were conducted as part of this study and the information was used to provide evidence of the presence or absence of classroom PBS components. Given that the TACL-PBS uses three independent methods for data collection, the study was also interested in the usefulness of each method. The data revealed that the

correlational structure of the instrument is strongest when scores from all three methods are combined.

Results indicated low to moderate correlations between the components assessed by the TACL-PBS and student outcomes (i.e., discipline referrals, rates of on-task behavior). A significant, negative correlation was found between the consistent use of classroom management practices by teachers and ODR's. Results also indicated that as the teacher use of classroom management practices (as reported by students) increased, rates of student on-task behavior increased. The presence of preplanned and sequential procedures for responding to behavioral violations (i.e., consequence system) had the second highest relation to the numbers of discipline referrals in a classroom. The study also found that the fidelity with which school-wide PBS was being implemented at the building-level did not significantly relate to implementation at the classroom-level. Discussion focuses on theoretical and practical implications of the current results, limitations, and directions for future research.

CHAPTER I

INTRODUCTION

Student misbehavior is one of the most frequently cited problems occurring in public schools today. In fact, teachers consider controlling student behavior to be both one of their greatest challenges and the greatest deficits in their training and skills (Weigle, 1997). Student noncompliance with adult directions and poor peer interactions are significant behaviors that put students at-risk for more severe antisocial behavior later in life and are directly related to low student academic performance (Patterson, DeBaryshe, & Ramsey, 1989; Verlinden, Hersen, & Thomas, 2000). These problem behaviors are occurring more frequently and with greater intensity than in the past, sometimes threatening staff and school safety. In addition, parents of school-aged children are increasingly dissatisfied with the quality of public education with much of their dissatisfaction focusing on the area of discipline (Gallup Poll, 2001). In short, public schools all over the country are struggling to find ways to provide a safe environment where students can focus their attention primarily on the learning process.

Intervention strategies and supports in schools have historically been reserved for those 1 – 5% of students who engage in the most disruptive and maladaptive behaviors. The Individuals with Disabilities Education Act of 2004 requires that school personnel conduct Functional Behavior Assessments (FBA's) and provide behavioral services to students with disabilities who are disciplined beyond 10 days, in order to prevent future occurrences of behavior problems. For these students, interventions are focused on

decreasing the frequency and intensity of individual student behavior problems and on teaching appropriate replacement behaviors (Gresham, 2004).

More recently, however, the emphasis in schools has shifted to the use of universal interventions that target all students and are preventive in nature. One recent development within school disciplinary practices that has experienced rapid growth and acceptance is School-Wide Positive Behavior Support (SW-PBS)(Walker, 2004). One assumption underlying the rationale for SW-PBS is that schools require multiple layers of behavioral support (i.e., primary, secondary, and tertiary), similar to the prevention schema provided by the National Institutes of Health (Gresham, 2004; Walker, 2004). Because the numbers of students considered “at-risk” far exceed the personnel available with the time and behavioral expertise to intervene in a timely manner, proponents ((Office of Special Education Programs (OSEP) Center on Positive Behavior Interventions and Supports, 1999)) of PBS recommend that schools take a “systems” perspective that emphasizes prevention of problem behavior with a focus on all students and all staff. Some of the practices emphasized in school-wide systems include, (a) defining positive behavioral expectations, (b) teaching these expectations to all students, (c) maintaining on-going strategies to acknowledge and reward appropriate behavior, (d) establishing a consistently implemented continuum of consequences for inappropriate behavior, and (e) gathering and using behavioral data for active decision-making.

Empirical research has supported the effectiveness of SW-PBS systems in reducing the frequency of behavior problems and disciplinary consequences for students. According to Horner et al. (2004), schools implementing SW-PBS reported 20-60% reductions in office discipline referrals (ODR), improved social climate, and improved

academic performance of students when school-wide behavior support systems are implemented. A recent report highlighting outcome data from over 400 schools in Illinois indicates steady decreases in office discipline referrals (ODR's) and exclusionary consequences (i.e., suspensions, expulsions, etc.) (ISBE EBD/PBIS Network, 2004). As discipline referrals consistently declined in these schools, student's scores on the Illinois Standards Achievement Test (ISAT) and Iowa Test of Basic Skills (ITBS) improved in math, reading, and writing. Additionally, results of social validity measures consistently indicate that consumers felt uniformly positive about the procedures and outcomes of school-wide PBS.

Currently, several assessment tools are being used to evaluate the fidelity of implementation (i.e., treatment integrity) of *school-wide* PBS systems. These include the School-wide Evaluation Tool (SET), the Effective Behavior Support survey (EBS), and the School-wide Benchmarks of Quality (SW-BOQ). Data from the EBS Survey and the SW-BOQ are used to evaluate the status of and need for improvement in one or more of four behavior support systems: (a) school-wide, (b) non-classroom, (c) classroom, and (d) individual student systems. Scores from the SW-BOQ are also used by Florida's Positive Behavior Support Project to identify model PBS schools across Florida.

On the SET, data are collected from different sources including review of permanent products, observations, and staff and student interviews or surveys to assess treatment fidelity. On the SET, each feature of school-wide PBS is documented through a prescribed set of data sources. The data obtained from the above tools is used to identify areas in need of improvement and to identify areas where the school has been successful in developing their school-wide system.

Recently, the research has identified critical components of positive behavior support at the *classroom-level* that parallel the building-level components. Although the focus is primarily on universal prevention, developing and implementing classroom systems of PBS occurs after successful implementation of the school-wide system (Florida PBS Project, 2004) or to strengthen the school-wide program following its implementation. At a broad level, focusing on the classroom system is recommended when (a) more than 50% of a school's ODR's come from the classroom setting, or (b) more than 40% of referrals come from less than 10% of classrooms. Johnson, Stoner, and Green (1996) further purport that developing classroom systems to address problems can be particularly appropriate in situations where a class includes more than one student exhibiting the same problem behaviors.

The OSEP Center on Positive Behavioral Interventions and Supports (2004) recommends that the practices emphasized in classroom systems be consistent with those practices in the school-wide system. According to Ysseldyke and Christenson (1993/1996), effective classroom practices are aimed at preventing classroom disruptions and are considered a prerequisite for maximizing instructional time. Research has indicated that approximately one-half of all classroom time is taken up with activities other than instruction, and discipline problems are responsible for a significant portion of this lost instructional time (Cotton, 1990).

Rationale for the Study

Compared to the amount of research on the presence of school-wide components of PBS and student outcomes, little or no research has been conducted on the relationship between the presence of critical components of classroom PBS and student outcomes. In

order to conduct such research, a measurement tool (similar to those developed to assess school-wide PBS) that is capable of evaluating the presence or absence of clearly defined, research-validated classroom supports, including effective classroom management practices was needed. Ern (2004) developed an assessment tool (TACL-PBS: Tool for Assessing Classroom Level-Positive Behavior Support) to assess the key features of PBS at the classroom-level. The study assessed the utility of the TACL-PBS and assessed the degree of variability between the ratings of informants on the various features (i.e., teachers, students, and observers).

Previous research has demonstrated the importance of obtaining data from multiple informants by “triangulating” their evidence (Achenbach et al., 1987; Irvin et al., 2004). While the Ern study was interested in looking at the degree of variability between reports from various informants, it did not assess the relationship between the presence of the factors it sought to verify and student behavior.

Data obtained from the Ern study suggested that teachers consistently reported the presence of a greater number of critical classroom PBS features than students across all domains of the TACL-PBS (Ern, 2004). The study also found that students consistently reported higher total scores than observers. The purpose of assessing the level of agreement between informants was not to establish a ‘gold standard’ against which to validate others’ reports, but rather to assess consistencies between perceptions. Although differences were found between ratings of informants, what remains unclear is how to best use this information when attempting to predict positive outcomes.

Purpose of the Study

In their development work with the School-wide Evaluation Tool (SET), Horner et al. (2004) called for additional research to be done that documents the relationship between various features of school-wide PBS as documented by SET scores and valued outcomes. Similarly, and because classroom PBS systems should extend and support the school-wide system, research was needed to examine the relationship between the presence of classroom PBS components and positive outcomes. The purpose of this study was to evaluate the degree to which the various features on the TACL-PBS were related to positive student outcomes.

Research Questions and Hypotheses

Research Question #1

What is the relationship between the number of critical components present in the classroom and positive student outcomes?

Hypotheses

1. Classrooms that have higher numbers of critical components of PBS in place will experience fewer disciplinary events than classrooms with lower numbers of PBS components.
2. Classrooms that have higher numbers of critical components of PBS in place will experience higher rates of on-task behavior than comparable classrooms with lower numbers of PBS components.

Research Question #2.1

Taken together, what is the relationship between the three data sources (i.e., data collection methods) and positive student outcomes?

Research Question #2.2

What is the relationship between each data source, after controlling for the effects of the other data sources?

Hypotheses

1. Scores obtained by either the student interview method or the key feature analysis (i.e., direct observation) will be more predictive of positive student outcomes than scores obtained by the teacher interview method.
2. Scores on Domain B (Expectations Taught) will have the greatest relation to positive student outcomes, regardless of data source.

Research Question #3

What is the relationship between the fidelity with which school-wide PBS is being implemented, implementation at the classroom level, and positive student outcomes?

Hypothesis

1. Schools with higher BOQ scores will have classrooms that score higher on the TACL-PBS than schools with lower BOQ scores.
2. Schools with higher BOQ scores will have classrooms that experience fewer disciplinary events and higher rates of on-task behavior than classrooms from schools with lower BOQ scores.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter begins by providing the reader with a brief history of the research conducted on positive behavior support (PBS) and how the strategies have evolved to include application at all levels of a system (i.e., individual, targeted group, classroom, school-wide). A particular focus of this chapter will be research support for the need for schools to embed classroom systems of positive behavior support (PBS) into the school-wide system. Specifically, best practices for designing classroom-level supports will be examined. The next section will review empirical evidence regarding the relationship between classroom management practices and student outcomes. The chapter will conclude by providing a rationale for identifying core PBS components at the classroom-level to predict positive student outcomes.

PBS has evolved from its roots in applied behavior analysis (ABA)(Sugai & Horner, 2002). The first issue of the *Journal of Applied Behavior Analysis* (JABA) was published 37 years ago and marked an important point in which the experimental analysis of behavioral principles extended to include human behavior, both academic and social (Baer, Wolf, & Risley, 1968). More recently, attention has been given to improving behavioral practices and processes in schools and classrooms particularly as they relate to remediating problem behavior in individual students. The amendments to IDEA (1997) introduced the term “positive behavioral interventions and supports,” for students with

disabilities and set the foundation for applying this technology to school-wide (i.e., universal) discipline practices.

Research on effective classroom practices and strategies that are preventive in nature have been well documented for the last 40 years (Madsen, Becker, & Thomas, 1968). For example, educators and psychologists in the 1970's emphasized the importance of student engagement and success in preventing the occurrence of disruptive behavior in classrooms (Berlinger, 1985; Brophy, 1979; Brophy & Good, 1986; Emmer, Evertson, & Anderson, 1980; Evertson & Emmer, 1982; Kounin, 1970; Rosenshin, 1985; Rosenshin & Stevens, 1986).

Common Problem Behaviors That Interfere With Learning

Problem behaviors are the single most common reason why students are removed from the classroom and school settings (Walker, Horner, Sugai, Bullis, Sprague, Bricker, & Kaufman, 1996). While a wide variety of problem behaviors may exist in any one classroom, research has shown some of these behaviors to be more predictive of poor academic performance and achievement than others. A study documenting the types of referrals made to school-based child study teams found that social-emotional behaviors including disruptive and aggressive behaviors constituted approximately 40% of the requests for assistance (Eidle, Truscott, Meyers, & Boyd, 1998). The same study found that one-half of the referrals made at the elementary school level were for students exhibiting poor peer relations. In addition, referrals made due to difficulties with attending to classroom instruction and focusing on tasks were more likely to be seen in elementary schools than in middle or high schools.

In a study addressing problem behavior in classrooms at the middle school level, it was found that the most frequently occurring and problematic behaviors could be distinguished as two classes of behaviors: disruptive behavior and inappropriately engaged behavior (Johnson, Stoner, and Green, 1996). Disruptive behavior was defined as behavior that produces observable physical changes, including noise, in the classroom environment, and is either unrelated to the current assignment/activity or interferes with the completion of the current assignment/activity by other students. In a meta-analytic study conducted by Stage and Quiroz (1997), research was reviewed that showed disruptive behavior within the classroom as a predictor of less academic engaged time, lower grades, and poor performance on standardized tests. Inappropriately engaged behavior was defined by Johnson, Stoner, and Green (1996) as behavior that is directed toward materials other than those currently assigned. Regardless of how we categorize and define behaviors, any conduct that is less conducive to or incompatible with learning can interfere with a student's academic progress (Schaefer, 2004).

A common problem behavior frequently cited in the literature is aggression. A study examining school base rates for disruptive behavior in two elementary schools found that the probability that a regular education student would receive at least one referral for an infraction involving physical aggression ranged from 25% to 34% across three years at school A and ranged from 6-9% at school B (Wright & Dusek, 1998). The probability that a special education student would receive at least one referral for physical aggression was higher, ranging from 36% to 47% at school A and from 20% to 32% at school B. Although the rates of student physical aggression and other disruptive behavior varied significantly between the two schools, the study found that the base rates within

each school building were sufficiently stable from year to year, permitting their use in making predictions about future disciplinary referrals among students. Nafpaktitis and Perlmutter (1998) found that children rated as aggressive during first grade were less likely to graduate from high school. Verlinden, Hersen, and Thomas (2000) reported that children who are aggressive in school are more likely to experience social rejection and school problems, and are at greater risk for more serious antisocial behavior later in life.

According to Walker and Sylvester (1998), “student noncompliance” is one of the most frustrating, intractable, and time-consuming behavior problems with which teachers must struggle daily” (p. 79). Research has found that noncompliant behavior tends to have a serious impact upon a child’s academic skills development (Patterson, Reid, & Dishion, 1992). Oftentimes, noncompliance in children strengthens avoidance behavior on the part of the teacher (i.e., damage the student-teacher relationship), resulting in missed opportunities for learning (Walker & Walker, 1991). Classroom observations of noncompliant children and those exhibiting undercontrolled (e.g., aggressive, disruptive, etc.) behaviors showed that they spend less time on-task than comparison students (Shinn, Ramsey, Walker, O’Neill, & Steiber, 1987).

Attending to classroom instruction is critically important for academic success, particularly in the area of reading (Rabiner, Murray, Schmid, & Malone, 2004). Longitudinal studies have found that attention problems play a causal role in the development of academic difficulties (Nafpaktites & Perlmutter, 1998). Other research has shown that while hyperactivity and conduct problems are associated with academic difficulties, they are not related to student achievement after their association with attention problems is taken into account (Rabiner et al., 2004). Stanger et al. (1993) used

three variables (attention problems, withdrawal, and social problems) to predict 27% of the variance in academic problems.

A frequently cited outcome variable used in behavioral research in schools is on-task behavior. Witt et al. (2004) indicate that if, during observation, overall student behavior is less than 70% on-task then learning suffers. Further, they conclude that off-task behavior and working correctly on academic tasks are incompatible responses. Therefore, it is necessary to first check fundamental classroom management procedures (i.e., low rates of on-task behavior, long transition times) when troubleshooting behavioral interventions.

Using Systems-Level Interventions to Improve Effectiveness

Effectively intervening with problem behavior requires that schools take a “systems” approach by taking specific behavioral strategies, practices, and processes beyond the individual student and applying them to the whole school (Sugai & Horner, in press). Part of the success and increasing popularity of school-wide PBS in recent years can be attributed to its integration of several critical components common to many system change (i.e., school reform) initiatives (Kern & Manz, 2004). SW-PBS carefully considers the systems needed to ensure valued outcomes, research-validated practices, and data-based decision making. Some of the critical elements identified by Sugai and Horner (2004) for ensuring the effectiveness and efficiency of systems include: (a) organizational working structures; (b) policies, and guiding principles; (c) operating routines; (d) resource supports; (e) staff/professional development structures and opportunities, and (f) administrative leadership. Sugai et al. (1999) state that “without a systems approach, identification of practices is limited, adoptions are incomplete, and

attention to school initiatives to address discipline is episodic and short-term (e.g., 18-24 months)” (p. 10).

Kincaid and Fox (in press) describe multi-component interventions that are not only directed at the problem behaviors of individual students and the immediate environment, but also on the systems of support that will be needed to meet the needs of the student. They also advocate for consideration of overall classroom management strategies, school-wide support strategies, district and state-level policies and procedures, and funding sources that may impact the student’s success. Sugai et al. (1999) offer a systems approach that is maintained along three levels of prevention: (a) primary: reducing the number of new cases of problem behavior; (b) secondary: reducing the number of current cases of problem behavior, and (c) tertiary: reducing the intensity and complexity of current cases. At the primary level, universal interventions are employed with all students and all staff and include consideration of school-wide and classroom-wide systems of support. This level of prevention is usually adequate for approximately 80-90% of students in an average school (Sugai et al., 1999).

Universal interventions are not unique, however, to the PBS literature. Several studies have documented the effects of school-wide systems of support on student behavior and academic outcomes. Project ACHIEVE (Knoff & Batsche, 1995) is one such comprehensive school-reform project that included several components specific to school-wide discipline. Some of the components included training teachers in effective classroom management techniques, the implementation of a building-wide social skills training program which integrated the direct teaching of social skills, social problem-solving, and self-control management, and directly trained parents in positive behavior

management. Implementation of Project ACHIEVE resulted in a reduction of overall disciplinary referrals, decreased in out-of-school suspensions, and a decrease in referrals to special education.

Another universal prevention program designed to reduce aggression and promote social competence in children is the Second Step program. The research foundations upon which the program were based and which the authors identify as central to children's social and emotional development include (a) empathy, (b) impulse control and problem-solving, and (c) anger management. Several journal articles have documented the positive effects that the program has had on decreasing children's aggressiveness and disruptive behavior, and increasing their positive social interactions (Grossman et al., 1997; McMahon et al., 2000).

Classroom-Level Supports

Teachers generally have a great deal of autonomy regarding how they manage student misbehavior, how they design instruction, and how they reward desired behaviors. In fact, teacher autonomy is a desired and valued aspect of the teaching profession. However, some degree of consistency with the school-wide system of PBS is necessary to ensure that students are able to effectively discriminate between desirable and undesirable behaviors across all school environments (e.g., classroom, hallway, cafeteria, recess, etc.) (OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports, n.d.). The goal of establishing classroom systems of PBS is to extend and support the school-wide system so that students can show success across variations in curriculum, instructional style, classroom routines, and settings.

Researchers have identified ways that classroom-level systems should be implemented and developed within the school-wide system. They include: establishing classroom rules and expectations; directly teaching school-wide and classroom rules and expectations; utilizing a system for rewarding behavioral expectations; and utilizing a system for responding to behavioral violations that is consistent with the school-wide system (Sugai & Horner, 2002).

Defining Behavioral Expectations

Horner, Todd, Lewis-Palmer, Irvin, Sugai, and Boland (2004) indicate that a central feature for promoting appropriate student behavior is the presence of a set of clearly stated expectations for student behavior. Correlational research has identified some of the factors that correspond with antisocial behavior (Mayer, Nafpaktitis, Butterworth, & Hollingsworth, 1983). Sulzer-Azaroff and Mayer (1991) identified a lack of clarity of both rules and discipline policies as one factor that correlates with antisocial behavior in children. The same authors conclude that rule following cannot be developed unless policies and rules (i.e., behavioral expectations) are clearly defined and communicated.

Directly Teaching Expectations

It is not enough to simply post rules, rather these expectations should be taught and reviewed regularly by teachers in much the same way as instructional content is taught and organized (Cotton, n.d.; Witt et al., 2004). Research on effective classroom management at both the elementary and secondary levels has shown that when expectations are taught, including the use of explicit examples of compliance and rule violation, then greater positive outcomes result (Emmer, 1982; Emmer & Evertson, 1980;

as cited in Cotton, n.d.). Schools that invest in teaching school-wide behavior expectations typically find that approximately 80% of the students behave acceptably (Horner, Sugai, Todd, & Lewis-Palmer, 2001). These same researcher's have gone so far to say that "the foundation for SW-PBS's accomplishments lies in the initial teaching of school-wide behavioral expectations" (p. 78).

According to Horner et al (2001), empirical support for teaching school-wide expectations builds on a solid foundation of research on direct instruction. Social skills instruction has generally been limited to only those students with the most intense problem behaviors. However, Gresham and colleagues (1998) have found that when this occurs, generalization and maintenance are difficult. Therefore, the effects of social skills instruction delivered in this manner have been unconvincing. Rather, Gresham et al recommend that social skills instruction be conducted with all students in a school.

The effects of directly teaching school-wide behavioral expectations have been well documented in descriptive research over the past 10 years. Taylor-Greene, Brown, Nelson, Longton, Gassman, Cohen, Swartz, Horner, Sugai, and Hall (1997) found that teaching school-wide expectations to middle school students resulted in a 47% reduction in office discipline referrals from one year to the next. Nelson, Johnson, and Marshand-Martella (1996) reported similar results when school-wide systems were used to address problem behavior and teach appropriate social skills.

Positive outcomes have also been reported when directly teaching behavioral expectations in nonclassroom settings in a school. Kartub, Taylor-Greene, March, and Horner (2000) conducted research in which they targeted appropriate hallway behavior of middle school students during transitions. They were particularly interested in decreasing

the noise level (decibel level) during transition times. Directly teaching the students to be respectful and quiet in the hallways resulted in a mean reduction of 12 decibels in hallway noise and maintenance of the effect over a three month period.

In another study, Todd, Haugen, Anderson, and Spriggs (in press) documented an 80% reduction in aggression and rule violation by elementary students on playgrounds following a “workshop” to teach playground expectations to all students. Using the Second Step curriculum for violence prevention to teach broad, school-wide social skills to all students, Grossman and colleagues (1997) documented changes in student knowledge of social concepts and experimentally controlled changes in the levels of problem behaviors.

Langland, Lewis-Palmer, and Sugai (1998) used a multiple baseline across classroom design to teach being respectful to middle school students. This approach resulted in an average of 70% reduction in rates of disruptions, verbal abuse, harassment, and defiance. Furthermore, these low rates were maintained over a 2-month follow-up period. Finally, Cushing (2000) measured problem behavior through reliable direct observation in non-classroom areas including the playground, cafeteria, hallway, and gym. Following direct teaching of school-wide behavioral expectations, observed rates of problem behavior across 5 middle schools decreased an average of 52% (range 39% - 65%).

System for Rewarding Behavioral Expectations

Developing an effective reward or recognition system is an integral part of maximizing the effectiveness of any behavioral intervention method in the classroom. A classroom reward system should be developed to:

1. increase the likelihood that desired behaviors will be repeated
2. focus staff and student attention on desired behaviors.
3. foster a positive climate.
4. reduce the need for engaging in time consuming, disciplinary measures.

(Childs, Herrmann, & O'Shannon, 2003)

Twenty years of research on validated classroom management and discipline practices collectively indicate that effective classroom managers reinforce appropriate behavior through the provision of verbal, symbolic, and tangible rewards. These same research-validated practices emphasize the need for classroom managers to provide high rates of effective positive reinforcement. Effective reinforcement has been defined as a ratio of four positive consequences for appropriate behavior to one corrective feedback for inaccurate or inappropriate behavior (reinforcement to correction)(Cotton, n.d.; Childs, Herrmann, & O'Shannon, 2003).

Lohrmann and Talerico (2004) conducted a study involving the use of a group contingency intervention to decrease the occurrence of disruptive classroom behavior. The intervention incorporated several of the core PBS components described above including directly teaching and reinforcing simple, positively stated behavioral expectations, providing frequent reminders about the expected behaviors, providing correct and incorrect examples of what each of the expected behaviors looked and sounded like, having the students participate in role plays and discussions where they acted out examples of the expected behaviors, and providing students who met the predetermined criterion the opportunity to choose from a variety of rewards. The results showed a substantial and steady decrease in the level and rate for talk-out behavior.

However, results for incomplete assignments and out of seat were inconclusive and ambiguous.

System for Responding to Behavioral Violations

Teachers must be consistent in addressing behavior problems when they occur in their classrooms. When teachers are ambiguous or inconsistent in responding to misbehavior, or when they react in inappropriate ways (as by lowering student's grades), classroom discipline is generally less effective (Gottfredson, 1989; Gottfredson & Gottfredson, 1985 as cited in Cotton, n.d.). Research has found that inconsistent administrative support for staff in carrying out student discipline and inconsistent follow through by staff, often results in more behavior problems by students (Mayer, 1995). Being inconsistent in enforcing rules and administering harsh, inconsistent consequences have been found as two of multiple determinants of antisocial behavior in childhood (Minuchin, 1974; Loeber & Dishion, 1983).

In addition, it is important for teachers to specify consequences of misbehavior and to demonstrate the connection between misbehavior and teacher-imposed sanctions. A distinction must also be made between which rule violations are teacher-managed (i.e., minor discipline offenses) and which are administrator-managed (i.e., major discipline offenses). When the difference is clear, research indicates that behavior management across settings becomes more consistent, staff support is enhanced, and communications become more efficient (OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports, n.d.).

Summary

Horner et al. (2004) indicate that “if all students are aware of the behavioral expectations in school and are aware that all other children have been presented with the same expectations, they are more likely to prompt and support appropriate behavior in their peers” (p. 7). The ultimate goal of establishing consistent classroom systems within a school is to increase predictability for students and staff (OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports, n.d.).

Effective Classroom Management

The literature in education and school psychology over the past 30 years is replete with evidence of effective classroom management practices. It is clear that the instructional environment (including instructional planning, management, delivery, and monitoring) can function as a setting event for behavior (appropriate and inappropriate) and specific teacher behaviors can function as the triggers for those behaviors (Cavalier, Touchette, & Allison, 2003; Ysseldyke & Christenson, 1993-96). Kounin (as cited in Cotton, n.d.) identified specific behaviors that effective classroom managers engage in to keep students focused on learning and to reduce the likelihood of student misbehavior.

Student Engagement

A strong relationship exists between maintaining a brisk, well-organized, and teacher-directed pace of instruction and positive student outcomes. One key to maximizing on-task behavior is to quickly engage students in the learning activity. In fact, Enloe (n.d.) indicates that if more than one minute elapses from the time instruction is to begin and when it actually does begin, students are likely to engage in off-task behaviors. It is important that lessons begin and end on time. Ysseldyke and Christenson

(1993-96) found that students with high rates of task engagement had teachers who planned shorter but more frequent lessons per hour.

Transition Routines

Furthermore, transitions between instructional and non-instructional activities should be efficient, orderly, and smooth (Kounin, 1970 as cited in Cotton, n.d.). In addition, they should be short and brief, leaving little time for students to engage in inappropriate and unproductive behaviors. Several researchers have highlighted the importance of using advanced organizers and pre-corrections to prevent the occurrence of predictable problem behavior and to facilitate the occurrence of more appropriate behaviors (Colvin, Sugai, Good, & Lee, 1997; OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports, n.d.). An appropriate transition routine may include verbal reminders, behavioral rehearsals, or demonstrations of appropriate behaviors that are presented during or before transitions are to occur.

Effective Praise

Finally, research on effective classroom management addresses the use of effective, rather than excessive, use of praise with students. Brophy (1981) and others have demonstrated that there are effective and ineffective ways to praise students. Effective praise is characterized by feedback that is specific rather than general, immediate rather than delayed, teacher-initiated, and private (Brophy, 1981; Hitz & Randy-Driscoll, 1989; Ysseldyke & Chrsitenson, 1993-96). It is more effective for praise to be elicited by students, than it is to be frequent and systematic (i.e., deliberate reinforcement). In this situation, students actually condition the teacher to praise them. The relationship between frequency of praise and achievement is usually quite low and

sometimes negative (Brophy & Evertson, 1976; Stallings, 1975 as cited in Ysseldyke & Chrsitenson, 1993-96). Research has shown that teachers allow over 90 % of all the appropriate things that students do to go unrecognized, while they are two to five times more likely to pay attention to misbehavior (Shores, Gunter, & Jack, 1993; as cited in Enloe, n.d.). Providing attention to inappropriate behavior increases the likelihood of that behavior in the future.

Summary

When developing classroom systems of PBS that are consistent with the school-wide system, it is important to emphasize research-validated classroom management practices. Smoothness and maintenance of the momentum of classroom instruction and activities were found to be the most powerful variables in controlling inappropriate behavior and maintaining student attention (Kounin, 1970 as cited in Hitz & Driscoll, 1989). In a study of the advantages of classwide interventions, Johnson, Stoner, and Green (1996), concluded that the active teaching of the rules paired with the use of behavior specific praise and feedback proved optimal for changing the behaviors of students at the elementary and middle school levels.

Identifying Key Features

School-Wide Features

Researchers have agreed on some basic core components of effective *school-wide* PBS and have developed ways of assessing the presence of these essential elements in schools (Horner et al., 2004; Florida PBS Project, 2004). Kern and Manz (2004) highlight the importance of identifying core intervention components for the purpose of monitoring

integrity and for replication studies. Some of the essential elements identified by Horner et al. (2004) include:

1. school-wide behavioral expectations are defined;
2. the expectations are taught to all children in the school;
3. students are monitored and acknowledged for engaging in behavioral expectations;
4. a consistently implemented continuum of consequences for problem behaviors is used;
5. problem behavior patterns are monitored and this information is used to make ongoing decisions;
6. an administrator actively supports and is involved in the effort; and
7. district-level support is obtained.

SET

The School-wide Evaluation Tool (SET) was developed by Sugai, Lewis-Palmer, Todd, and Horner (2001) to evaluate the critical features of effective behavior support systems. A recent study evaluating the psychometric characteristics of the SET concluded that its scores demonstrated adequacy of central tendencies and variability for sensitivity at all levels: item, subscale, and total (Horner et al., 2004). Using a variety of correlational analyses to assess the reliability of the SET (e.g., Pearson product moment correlations, Cronbach's coefficient Alpha internal consistency index), the same study found the SET's correlational structure to meet and exceed standard psychometric criteria for discriminability and for internal consistency and test-retest reliability in instrumentation used primarily for research purposes. Results documented an overall

alpha of .96, all item/scale correlations met and/or exceeded $r = .30$, and internal consistency indices exceed $r = .60$. Kern and Manz (2004) support the SET as an essential and reliable measure of school-wide behavioral program implementation. While some evidence of construct validity (i.e., convergent validity) has been provided that supports the SET as a valid measure of program implementation, Kern and Manz call for additional validity studies (i.e., social validity, divergent validity) to determine if the SET is a valid indicator of program *effectiveness* in reducing problematic behavior and improving school climate.

Classroom Features

TACL-PBS

Because *classroom* systems of PBS are designed to support and extend the school-wide system, they share several of the same key features. The TACL-PBS (Ern, 2004) (Appendix B) was developed for the purpose of assessing the salient features of PBS at the classroom level. It includes items in five domains, the first four representing four (expectations defined, behavioral expectations taught, ongoing system for rewarding behavioral expectations, system for responding to behavioral violations) of the seven key features of school-wide PBS identified above. The fifth domain includes items related to principles of effective classroom management (e.g., having routines to limit unstructured down-time, using advanced organizers and pre-corrections prior to transitions, using praise effectively, using checks for understanding). For each domain on the TACL-PBS, there are three methods (i.e., teacher interview, student interview, and a key feature analysis) used to independently assess the presence or absence of the proposed features.

Like the SET, the TACL-PBS uses information from a variety of sources to evaluate the components of effective behavior support systems.

Research on the TACL-PBS (Ern, 2004) investigated the degree to which differences existed between the ratings of different informants (i.e., student, teacher, and data collector/observer) on the various features sought. The results of the Ern study found that teachers consistently reported a greater number of classroom PBS features than students across all domains of the TACL-PBS. Likewise, students' reports resulted in higher total scores than reports from the observers/data collectors (Ern, 2004).

Achenbach, McConaughy, and Howell (1987) recommended that researchers obtain data from multiple informants and to determine whether there is any consistency between informants. They hypothesized that very high consistency between certain informants would mean that reports by one or more of them should serve as well as reports by more than one of them. On the other hand, low levels of consistency between some combinations of informants would indicate that these informants could not be substituted for one another. Using meta-analytic techniques, modest correlations were demonstrated between different types of informants (i.e., parent, teacher, observer, child) on children's behavioral and emotional problems. They concluded that while disagreements between informants' reports may exist, they can be as instructive as agreements (Achenbach et al., 1987). Irvin, Tobin, Sprague, Sugai, and Vincent (in press) also recommend evaluating data from multiple informants by collecting a variety of measures such as survey or interview data on teacher, student, parent, or other's perceptions. Reynolds and Kamphaus (1992) have highlighted the value of using observational data to supplement ratings.

Although research exists that question the reliability of teacher self-report measures of treatment integrity (Robbins & Gutkin, 1994 as cited in Witt, et al), the purpose of the pilot study was not to cast doubt necessarily on one or more of the informants. Rather, the information collected from the various informants helped to determine which features of classroom PBS informants agreed on and on which features agreement was more difficult. For example, teachers and students agreed most on items assessing whether or not the classroom behavioral expectations had been clearly defined. In contrast, they agreed least on items assessing the degree to which the behavioral expectations had been directly taught. Knowing that informants showed a high level of agreement on certain items (i.e., features) raises the question of whether or not certain questions on the TACL-PBS need to be asked of all informants. In other words, can the same information be adequately obtained by only asking one or two, rather than all three informants (i.e., teacher, student, data collector/observer)? Research is needed to determine which features best predict academic and behavioral outcomes at the classroom level.

In research on the SET, Horner et al (2004) call for further research to investigate the relationships between SET scores and valued outcomes such as reductions in office discipline referrals, attendance, referrals to special education, and improvement in academic performance. Kern and Manz (2004) call for further research to explicate the relationship between school-wide PBS and student academic outcomes and to do so with added experimental rigor.

Measures of Program Effectiveness

Office Discipline Referrals

One of the most widely used outcome measures to determine program effectiveness in SW-PBS has been office discipline referrals (ODR's). Irvin et al. (2004) provided empirical evidence supporting ODR's as sensitive measures of the effects of interventions designed to change student behavior and to improve school and classroom climate. ODR's can be defined as recorded events wherein a student's behavior has violated school rules, resulting in written reports to school administrators (Kern & Manz, 2004).

Scott and Barrett (2004) conducted research to determine the average amount of time lost, both instructional and administrative, as a result of processing an ODR. The results indicated that processing a typical ODR took an average of 10 minutes of administrator time and an average of 20 minutes of student time spent out of the classroom. From an administrative standpoint, any time saved from a reduction in problem behavior can be reinvested in prevention efforts. Of course, research has highlighted the strong correlation between academic engaged time and student achievement (Brophy, 1988; Northwest Regional Education Laboratory, 2001, as cited in Scott & Barrett, 2004). Simply put, if students are sitting in the school office waiting to be seen by the principal, academic learning is not occurring.

Direct Observation Data

Other studies have used data from direct observations of student and staff behavior as dependent measures to document program effectiveness (Nelson, Colvin, & Smith, 1996). These same researchers found that changes in ODR's were similar to

changes in direct observation data when used to measure students' social behavior (i.e., positive and negative social interactions). Kern and Manz (2004) reported that in the few studies that have used data from direct observations as dependent measures of student and staff behavior, they have been limited to the evaluation of interventions in specific school settings (i.e., hallways, playground, classroom).

Summary

This chapter has highlighted the research on developing effective practices and supports at the classroom-level. The TACL-PBS (Ern, 2004) captures these elements and provides a way for schools to begin to assess PBS implementation in individual classrooms and to assist in identifying specific areas that need attention. The proposed research will identify the most critical features of classroom PBS included on the TACL-PBS so that intervention integrity can be monitored in classrooms.

CHAPTER III

METHOD

Introduction

This study examined the relationship between the various components of classroom PBS and student outcomes. Specifically, the study investigated which of the features assessed by the TACL-PBS best predicts positive student outcomes. The purpose of this chapter is to describe the: (1) design of the study and how it was implemented in the school and classroom setting; (2) specific sampling and data-collection procedures that were used; and (3) procedures used for data analysis.

Research Design

This study involved the use of a multivariate correlational design as illustrated in Appendix A. This design allowed for the analysis of 18 predictor variables, and how they, either singly or in combination, relate to student outcomes. Data were gathered using a combination of methods including survey, observation, and review of permanent products. Information on several control variables (gender, ethnicity, years teaching) was included in this study.

Sample

School Selection

A purposive sampling method was used to select 10 elementary schools for participation in this study. It was purposive in that all schools had implemented a school-wide PBS system for at least one full year prior to this study. All schools utilized the

School-Wide Information System (SWIS) for gathering, analyzing, and reporting office discipline referral information. Only schools with data systems capable of analyzing and reporting classroom-level data were included.

Six of the schools were selected from among those implementing a SW-PBS system in one small Florida school district. Out of 10 total schools (7 elementary, 1 middle, and 2 high) implementing SW-PBS in this respective district, only six met the criteria of both being at the elementary level and having implemented a school-wide system for at least one full year. The remaining four schools were selected from school districts in close proximity to the principal investigator. This assisted with the training and ongoing assistance of data collectors. All of the schools in the sample received their initial training and ongoing technical assistance from Florida’s PBS Project based at the University of South Florida.

Table 1

School-level Demographics

<i>School</i>	<i>Total enrollment</i>	<i>% on Free/Reduced Lunch</i>	<i>% with a disability</i>	<i>% out-of-field teachers</i>	<i>% Teachers with advanced degree</i>
1	523	19	10	9	31
2	702	70	13	3	30
3	457	54	18	11	33
4	695	54	14	17	34
5	380	67	16	n/a	n/a
6	566	68	16	8	29
7	660	15	19	17	n/a
8	605	83	20	<1	12
9	615	71	15	n/a	n/a
10	506	62	16	24	22
Averages	569.8	56.3	15.7	11	27.3

Note. n/a=data not available

Data from the schools, including socioeconomic status, ethnicity, and size, were collected to describe the schools across common variables. Tables 1 and 2 provide summaries of school-level data.

Table 2

Student Enrollment by Race/Ethnicity

<i>School</i>	<i>% Asian</i>	<i>% Black</i>	<i>%Hispanic</i>	<i>%Multiracial</i>	<i>%White</i>	<i>%Other</i>
1	1	15	2	1	81	0
2	1	16	27	4	53	0
3	3	19	10	4	65	0
4	<1	12	6	6	76	0
5	0	21	20	3	56	<1
6	2	23	18	5	52	0
7	1	5	7	5	83	0
8	2	31	27	8	32	1
9	0	26	19	2	53	0
10	1	34	13	4	48	<1

Classroom Selection

Two classrooms from each of two critical grade levels (2nd and 4th) were selected at each of the 10 participating schools, for a total of 40 classrooms. Grades two and four were selected for several reasons. First, a decision was made to select only one primary and one intermediate grade level for participation. Secondly, because data collection began in January, kindergarten students would have only been exposed to the school-wide and classroom expectations for a few months. This limited exposure could confound the results of the study. To ensure to the greatest extent possible that the students would be familiar with the school-wide PBS procedures, second grade was the most logical choice. Fourth grade was chosen to represent the intermediate grade level. Only general

education classrooms were included in this study. The selection of classrooms was conducted using the following procedures:

1. At each school, SWIS was utilized to report the total number of office discipline referrals (ODR's) written by second grade teachers, and again by fourth grade teachers.
2. The top and bottom quartiles were selected to ensure the maximum difference between high and low referring classrooms at each grade level. For example, in one 2nd grade classroom in School A, seven ODR's were written between 8/1/05 and 11/30/05, while in another 2nd grade classroom in the same school, no ODR's were written during that same time period.
3. Only one high referring classroom and one low referring classroom at each grade level per school was selected to participate in the study. In the case that there was more than one high or low referring classroom within a grade level, a simple random sampling method (i.e., table of random numbers) was used to select only one of each.

The teacher sample included 33 (82.5%) females and 7 (17.5%) males. The ethnicity of the teacher sample was 34 (85%) Caucasian, 3 (7.5%) African American, and 3 (7.5%) Hispanic. The average number of years teaching for the sample was 9.36 (range= <1-35 years).

Student Selection

The same random sampling method was used to select a sample of three students from each classroom. Out of the 120 students selected to participate in this study, parent informed consent was received for 116 students. Only students who spent a majority of

their academic day in a general education classroom and only students with the ability to fully understand and respond verbally to the questions asked by the researchers were included in this study. Therefore, students with moderate to severe cognitive or physical disabilities (i.e., those classified as Trainable Mentally Handicapped, Profoundly Mentally Handicapped, Dual Sensory Impaired, Severely Language Impaired), and those classified as limited English proficient (LEP) or non-English proficient (NEP) were excluded from participation in this study. It was important to ensure that the students who were selected to participate in the study had attended the current school for at least one school year. Teachers were asked to confirm this information before obtaining parental consent. Students included 57 (49%) females and 59 (51%) males. The ethnicity of the student sample was 89 (77%) Caucasian, 14 (12%) African American, 10 (9%) Hispanic, and 3 (3%) other ethnicity.

Instrumentation

Tool for Assessing Classroom-Level: Positive Behavior Support (TACL-PBS)

The Tool for Assessing Classroom Level-Positive Behavior Support (TACL-PBS) was developed by Ern (2004) for the purpose of assessing the key features of PBS at the classroom-level. It includes items in five domains: a) Expectations Defined; b) Behavioral Expectations Taught; c) Ongoing System for Rewarding Behavioral Expectations; d) System for Responding to Behavioral Violations; and e) Teacher Skill/Classroom Management. The first four domains of the TACL-PBS represent four of the seven key features of school-wide positive behavior support identified by Horner et al. (2004). Because classroom systems of PBS share several of the same features as school-wide PBS, many of the individual items within the first four domains of the

TACL-PBS resemble those on other measures. Before developing the tool, potential items/questions were gleaned from a variety of other instruments (EBS Survey, PBS-CAT, SET-SW, The Instructional Environment System-II), categorized by like feature/domain (i.e., defining behavioral expectations, directly teaching behavioral expectations, etc.), and evaluated by proposed data source and format. To evaluate the importance of including each item and feature on the TACL-PBS, research literature supporting each feature was examined and documented (Ern, 2004).

Three methods (i.e., teacher interview, student interview, and a key feature analysis) are used to independently assess the presence or absence of the proposed features for each domain on the TACL-PBS. An overview of how these three methods were used to triangulate the evidence of PBS components in each classroom can be found in Appendix B. The teacher and student interview methods include parallel items to ensure that both informants are rating the same features. Alternate questions are available for each student interview item to ensure understanding by students of varying ages and developmental levels. In order to triangulate the evidence of PBS features within each classroom, the tool also includes a key feature analysis (KFA) which involves both direct observation of student and staff behavior and a review of permanent products (e.g., review of lesson plans, instructional materials, discipline log, rules/classroom procedures that may be posted, etc.). The focus of the data collector in conducting the KFA is to capture evidence of the PBS features that are present in the classroom. For example, the data collector would review lesson plans or instructional materials to assist in determining whether or not there is a *documented* system for teaching behavioral expectations and rules to students (Feature B, Item 1). To obtain evidence about how

frequently teaching of rules and expectations occurs in the classroom (Feature B, Item 2)(i.e., ongoing/frequent teaching, only in response to behavioral violation, once at the beginning of the year), the data collector would observe in the classroom during instruction.

The TACL-PBS evaluation sheets (Appendix C) are formatted to record student and teacher responses verbatim and to assign codes to those responses. During the Ern (2004) study, this format proved valuable because the data collector could carefully examine the responses and observations at a later time and review the scoring criteria for each item before assigning a score. An example of the format by which this information is gathered across methods is provided in Figure 1.

FEATURE	TEACHER INTERVIEW ITEM	STUDENT INTERVIEW ITEM	KEY FEATURE ANALYSIS
Behavioral Expectations Taught	1. Have you directly taught the classroom and school rules/behavioral expectations to your students this year? How? _____	1. Did your teacher specifically teach you the school/classroom rules and expectations this year? How? _____	1. Is there a documented system for teaching rules and behavioral expectations to students?

Figure 1. Illustration of Item Format by PBS Feature

Scores for each item range from 0 to 2, with 0 representing no evidence of that feature being implemented, 1 representing some or partial evidence, and 2 representing clear evidence. In the example above, a teacher response indicating that he/she had directly taught the classroom rules but not the school-wide expectations would receive a score of 1-point. A score of 2 would require that both the classroom rules and the school-wide behavioral expectations were directly taught during the year. Summary scores are

calculated for each domain by each informant. A total score is also obtained for each informant by adding together the summary scores for each feature measured. The total score represents the percent of features that are reported by that informant.

Psychometric Analysis

To evaluate the psychometric adequacy of the TACL-PBS, the researcher conducted a variety of data analyses including (1) the calculation of means and variances

Table 3

Descriptive Statistics for TACL-PBS Item, Domain, and Total Scores

<i>Domain Item</i>	<i>Teacher (n=40)</i>		<i>Student (n=116)</i>		<i>KFA (n=39)</i>		
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	
A. Expectations Defined							
1	1.68	0.57	1.51	0.75	1.64	0.63	
2	1.25	0.44	0.98	0.32	1.49	0.72	
SumA	2.93	0.69	2.48	0.66	3.13	1.24	
B. Expectations Taught							
1	1.75	0.44	1.35	0.78	0.51	0.86	
2	1.60	0.50	1.10	0.43	0.69	0.77	
SumB	3.35	0.74	2.46	0.92	1.21	1.30	
C. Reward System							
1	2.00	0.00	1.90	0.45	1.74	0.68	
2	1.80	0.41	1.41	0.56	0.54	0.72	
3	1.57	0.55	1.60	0.59	1.03	0.84	
SumC	5.38	0.77	4.91	1.06	3.31	1.64	
D. Consequence System							
1	1.62	0.63	1.17	0.89	1.46	0.56	
2	1.72	0.45	1.36	0.52	1.23	0.74	
3	1.90	0.38	1.57	0.71	1.79	0.41	
4	1.85	0.43	1.63	0.52	1.85	0.49	
5	1.78	0.48	1.61	0.59	1.15	0.67	
SumD	8.88	1.14	7.34	1.74	7.49	1.81	
E. Classroom Management							
1	1.93	0.35	1.91	0.28	1.21	0.89	
2	1.10	0.63	0.50	0.64	0.92	0.81	
3	1.50	0.68	0.97	0.86	1.00	0.86	
4	1.75	0.44	1.22	0.53	1.46	0.68	
5	1.87	0.34	1.30	0.58	1.36	0.78	
SumE	8.15	1.19	5.91	1.70	5.95	2.46	
Total	17 Items	28.67	2.64	23.10	3.53	21.08	4.58

Note. TACL-PBS=Tool for Assessing Classroom-Level Positive Behavior Support; Teacher=teacher interview method; Student=student interview method; KFA=key feature analysis method. Maximum score for each item= 2 points. Maximum total score= 34 points.

of items and subscales, as well as of total scores from each data collection method, 2) rater/observer agreement, and 3) correlational analyses for examining the reliability of SET items and scores. Table 3 presents basic descriptives for all TACL items, domains, and total scores.

Reliability

Reliability of the TACL scores was assessed through internal consistency of items, domains, and total scores, and through calculations of interrater agreement percentages.

Internal consistency. Cronbach's alpha coefficient for all of the items on the instrument was .678. Alpha coefficients for the domain and total scores are listed in Table 4. It is suggested that for research purposes internal consistency indices should exceed .60 and item/scale correlations should exceed .30 (Nunnally, 1975). Overall, the data suggest that the instrument appears most reliable when the mean scores from all three methods are used in the analysis.

Table 4

Domain and Total Score Internal Consistency Reliabilities

<i>Domain</i>	<i>Items</i>	<i>Coefficient Alpha</i>			
		<i>Teacher</i>	<i>Student</i>	<i>KFA</i>	<i>All</i>
Expectations Defined	2	--	.10	.81	.57
Expectations Taught	2	.38	.11	.38	.65
Reward System	3	.45	.35	.56 ^a	.59 ^b
Consequence System	5	.13	.35	.59	.51
Classroom Management	5	.11	.45	.58	.69
Total	17	.47	.52	.61	.68

Note. All=alpha represents mean of three methods

^a=Alpha increases to .73 by deleting item C1, ^b=alpha increases to .76 by deleting item C1

Pearson product-moment correlations were used to analyze all item/subscale, item/total, and all subscale/total score correlations on the TACL-PBS. Results demonstrate that the correlational structure of the instrument is strongest when scores from all three data collection methods are aggregated. Items C1, D1, and D3 showed questionable item/scale correlations. Results are presented in Table 5.

Table 5

Item/Subscale, Item/Total, and Subscale/Total Correlations

DOMAIN/Item	Item/Subscale				Item/Total-Subscale/Total			
	T	S	KFA	All	T	S	KFA	All
A					.17	.27	.08	.15
1	-.08	.06	.69	.45	.20	.23	.18	.15
2	-.08	.06	.69	.45	-.03	.17	.16	.23
B					.46	.36	.41	.54
1	.24	.01	.24	.50	.42	.30	.29	.50
2	.24	.01	.24	.50	.35	.19	.40	.52
C					.16	.28	.02	.16
1	^a	.15	.16	.15	^a	.23	.06	-.01
2	.30	.47	.46	.65	.07	.31	.01	.22
3	.30	.12	.54	.50	.26	.17	.25	.35
D					.26	.25	.30	.27
1	-.05	.17	.36	.23	.23	.02	.54	.25
2	.04	.33	.38	.40	.05	.26	.24	.31
3	-.24	.22	.57	.15	-.13	.37	.34	.24
4	.34	.33	.26	.32	.34	.14	.17	.10
5	.29	.17	.29	.34	.09	.35	.16	.28
E					.27	.09	.13	.15
1	.11	.29	.20	.31	.39	.13	.14	.31
2	.22	.27	.54	.54	.25	.41	.40	.64
3	-.07	.38	.46	.47	.07	.21	.30	.18
4	.05	.62	.23	.50	.17	.23	.09	.18
5	-.04	.23	.28	.45	-.26	-.04	.22	.12

Note. ^a= Zero variance-not used to compute correlation

T=teacher interview method. S=student interview method. KFA=key feature analysis method. All=mean scores from all three data collection methods (aggregated method).

Inter-rater agreement. The extent to which two data collectors recorded/coded the same information (i.e., inter-rater agreement) was assessed with 20% of the sample (or 8 classrooms). This was done with one data collector taking the primary role for administering and scoring the tool, while the second data collector observed the process and scored the administration on a second copy of the tool. Inter-rater agreement was based on an item-by-item comparison and calculated by dividing the number of items with perfect agreement by the total number of items and multiplying by 100%. If it was determined that the agreement levels were not adequate (80% or greater), additional training was conducted prior to continuing with the full sample. Additionally, the two data collectors went through the ratings to determine when and why there may have been disagreements on certain items. Nonetheless, the original ratings from the primary data collector were used for data analysis. The mean inter-rater agreement was 80% (range=76-94%) for the KFA method, 81% (range=59-94%) for the teacher interview method, and 85% (range=65-100%) for the student interview method. Inter-rater agreement was also determined for 20% of the on-/off-task observation sessions. The mean inter-rater agreement for the observations was 92.5% (range = 80-100%).

School-Wide Benchmarks of Quality (SW-BOQ)

The SW-BOQ is a tool that was developed by Florida's PBS Project (2004) to evaluate the extent to which school-level teams are implementing school-wide PBS. It provides data that school teams can use to identify areas of strength and weakness for establishing future action plans to improve the impact of SW-PBS. The first step of the procedure involves a PBS Coach independently rating each of 53-items based on descriptions and exemplars on the SW-BOQ Scoring Guide. The coach then gives a SW-

BOQ rating form to each PBS team member who completes the survey independently by rating whether the PBS component is “In Place”, “Needs Improvement”, or “Not in Place”. A copy of the SW-BOQ Team Rating Form is included in Appendix D. Next, the coach collects and tallies the responses from the team members and records the most frequent response. Discrepancies between the coaches’ ratings and the team’s most frequent rating are summarized and shared with the team. The coach may use any new information that is shared by the team to adjust the final score on the SW-BOQ.

The SW-BOQ is completed by school teams in the Spring of each school year. Scores on this instrument are submitted to the Florida PBS Project and used to help identify model PBS schools in Florida. The SW-BOQ has a total possible score of 100. Each item on the tool is worth between one and three points. Schools scoring a SW-BOQ total score of 80 or above are considered for “model school” status. Potential model schools must agree to participate in on-site follow-up assessments conducted by Project staff. A recent reliability study on the SW-BOQ found the Cronbach’s alpha coefficient for all of the items to be .96, indicating good internal consistency (Cohen, 2006). Additionally, all of the subscale alpha coefficients were greater than .70, with the exception of one. Measures of intra-rater and inter-rater reliability were found to be $r=.978$ and $r=.864$, respectively. Concurrent validity was determined using the SET and the results indicated an $r=.450$.

The fidelity with which school-wide PBS is being implemented across the 10 schools involved in this study differed and may have had an effect on the level of implementation at the classroom-level. Knowing this, the School-wide Benchmarks of

Table 6

Benchmarks of Quality Scores for Participating Schools

<i>School</i>	<i>BOQ Score</i>
1	71
2	87
3	76
4	83
5	80
6	59
7	37
8	60
9	74
10	80

Quality (SW-BOQ) scores obtained in the Spring of 2005 were collected for each school in this study and examined during data analysis to determine if the level of school-wide implementation predicted classroom-level implementation. The average BOQ score for the 10 schools was 72.28 ($SD=14.64$). Table 6 lists BOQ scores for all schools.

Outcome Measures

Classroom Observation Method

In addition to the information obtained through administration of the TACL-PBS, a structured observation technique was used to gather data about on- and off-task behavior. This observation occurred during the time the data collector was in the classroom collecting the information needed for the key feature analysis (KFA). Specifically, the data collector made note of the student seating arrangement prior to conducting the classroom observation. Student “seats” were numbered and a specific subset of the children were selected for observation (i.e., every fifth child). The data collectors used a cuing device (i.e., vibrating watch) to alert them to observe a different student every two minutes. Each student selected was observed for 10 seconds, then the

data collector indicated on the KFA response sheet whether the student was on- or off-task during that interval. The observation consisted of 20 intervals and took 40 minutes per classroom to conduct. Finally, the percentages of on- and off-task intervals were calculated. The average percentage of on-task behavior across the 40 classrooms was 76.87% (range= 55-95). Table 7 provides rates of on-task behavior found during the classroom observations.

Off-task behavior was defined as any behavior that competes with academic engaged time. This included any student who was not attending to his or her work or assigned task/activity. Types of off-task behavior may have included verbal (e.g., calling out, talking to peer), motor (e.g., out-of-seat, playing with objects), and passive (e.g., looking around, away from work; passively waiting in seat) activities. This method of observing on- and off-task behavior was especially useful when gathering inter-rater agreement information to ensure that the two data collectors were observing the same students.

Office Discipline Referrals

Office discipline referral (ODR) information for each classroom was gathered using SWIS.

School-Wide Information System (SWIS)

SWIS is a web-based information system that is used by all 10 of the schools included in this study. It was developed by researchers at the University of Oregon to student interventions. It is currently being used in 2,717 schools in 39 U.S. states and help school personnel to use office referral data to design school-wide and individual territories, 2 Canadian provinces, 3 Norwegian provinces, and 2 New Zealand provinces.

Table 7

Outcome Measures for Individual Classrooms

<i>Classroom</i>	<i>Percent On-Task</i>	<i>ODR(pre)</i>	<i>ODR(post)</i>
1.	75	3	3
2.	80	0	0
3.	55	5	7
4.	95	1	1
5.	85	0	0
6.	70	7	14
7.	80	3	3
8.	95	8	19
9.	65	1	2
10.	65	0	1
11.	85	0	3
12.	85	0	0
13.	90	0	2
14.	60	5	5
15.	70	0	1
16.	85	5	10
17.	65	4	5
18.	80	0	1
19.	80	1	1
20.	55	6	6
21.	70	12	20
22.	80	0	3
23.	A	0	1
24.	80	5	19
25.	85	0	0
26.	70	0	0
27.	95	0	2
28.	85	0	1
29.	80	1	1
30.	80	7	10
31.	80	0	4
32.	85	5	6
33.	80	0	3
34.	80	4	4
35.	73	5	6
36.	80	0	3
37.	75	0	0
38.	55	5	9
39.	80	1	1
40.	65	0	0

Note. ODR(pre)=office discipline referrals prior to data collection. ODR(post)=office discipline referrals following data collection.

Mean percentage of students on-task for total sample=76.87 (74.50 for 2nd grade classrooms; 79.37 for 4th grade classrooms).

Mean number of ODR's (pre) for total sample=2.35 (2.45 for 2nd grade; 2.25 for 4th).

Mean number of ODR's (post) for total sample=4.43 (4.15 for 2nd grade; 4.70 for 4th).

There are 119 schools within the State of Florida using SWIS to track and report discipline data.

ODR information was collected for each classroom on two different dates during data collection (11/30/05; 3/31/06). The information collected in November was used to help select classrooms for participation. Updated information was again collected in March to reflect more accurate data with which to correlate with predictor variables. The average number of ODR's written by the total sample prior to data collection was 2.35 (range 0-12), while the average number of ODR's written as of 3/31/06 was 4.43 (range= 0-20). Table 7 also summarizes ODR data collected for each classroom.

Procedures/Data Collection

The implementation of this study was conducted in the following step-wise fashion:

Step 1: Interviewer/Observer Training

Two research assistants were identified by the primary investigator to assist with data collection. Each had training and experience in designing and implementing school-wide systems of positive behavior support and served in some leadership capacity within their respective districts (i.e., district-level coordinators or coaches). Nonetheless, the principal investigator trained the interviewers/observers on the specific administration and scoring procedures utilized with the TACL-PBS.

A training module (i.e., CD) was developed by this researcher that provided the research assistants with an overview of the study, specific administration and scoring guidelines, and checks for accuracy. Specific administration guidelines can be found in Appendix E. Videotaped recordings of actual interviews and observations were made so

that the research assistants could practice recording and rating the responses. Their ratings were then checked by the primary investigator for accuracy and areas of disagreement were discussed before using the tool in a real setting. Practice recording and coding of responses occurred until research assistants obtained an 80% level of agreement with the ratings of the primary investigator. Agreement was based on an item-by-item comparison and calculated by dividing the number of items with perfect agreement by the total number of items and multiplying by 100%. This was done to ensure the level of standardization and structure necessary for the data to be useful. Prior to administering the TACL-PBS independently, the research assistants were observed administering the student and teacher interviews.

Step 2: Informed Consent

Prior to initiation, review and approval of this research protocol was received by the Institutional Review Board at the University of South Florida. All schools chosen to participate in this research study received their initial training and ongoing technical assistance in the implementation and sustainability of SW-PBS systems from the University of South Florida's/Florida Positive Behavior Support Project. The Florida PBS Project requires that school districts show evidence of several readiness requirements prior to allowing individual schools to receive the SW-PBS training. Some of the requirements include: 1) the development of a district PBS team with broad representation; 2) the completion of a needs assessment and action plan facilitated by the Florida PBS Project; 3) the identification of a PBS district coordinator (i.e., lead contact); 4) allocation of funding to support school-wide initiatives; and 5) the identification of PBS coaches (facilitators) to support individual schools.

In addition, a collaborative agreement had been established between each of the participating school districts and the Project that included evaluation of all phases of the school-wide PBS project. Because of this relationship, access to individual schools and classrooms for data collection was reasonable. Nonetheless, the principals of the schools chosen were informed of the purpose of the study and the procedures by which it would be conducted. District- and school-level approval was obtained prior to initiating the study.

Once the primary investigator received permission from the building principal, informed consent (Appendix F) was obtained from the teachers who were selected to participate. In the event that a teacher decided not to participate in the study, then a simple random sampling method was used to select another teacher. The same procedure was used in the event that a parent or student chose not to participate or withdrew consent. Informed consent was obtained from parents of the students selected for inclusion in this study (Appendix G).

Step 3: Conducting Interviews and Observations

Data collection occurred between January and March of 2006. Prior to conducting the actual interviews or classroom observations, data collectors familiarized themselves with the *school-wide* PBS procedures. This step was important because several of the items on the TACL-PBS sought information about whether or not classroom procedures were consistent with or aligned with school-wide procedures. A meeting with the school's PBS Team Leader (i.e, school contact person) was scheduled to ascertain the expectations set forth by the PBS team and administration that applied to both staff and students. Some of the questions that were asked during this meeting included:

1. What are the school-wide expectations?
2. Were teachers expected to develop behavioral lesson plans to teach classroom rules/school-wide expectations?
3. What are the school's procedures for handling major vs. minor discipline infractions?
4. What is the process used to track discipline referrals in the school/classrooms?
5. What are the school-wide procedures for rewarding behavioral expectations?

The second step involved setting up and conducting the teacher interviews. The data collectors only set up times to interview the teachers as approved by the building principal. Potential times to conduct the teacher interviews included teacher planning time, before, or after school. Interviewing the teacher in his or her classroom allowed the observers the opportunity to preview the physical arrangement of the classroom and to more readily access any permanent products that may be needed.

After conducting the teacher interview, the data collector established a time to conduct an observation of the classroom environment. It was during this scheduled observation that the information on the Key Feature Analysis (KFA) and the data about on- and off-task behavior were obtained. The data collector reviewed any available behavioral lesson plans, instructional materials, behavior logs, and other permanent products prior to conducting the actual observation in the classroom. This assisted the data collector in determining the presence or absence of the proposed feature upon entering the classroom. For example, to determine the degree to which behavioral expectations had been taught, the data collector first reviewed the classroom lesson plan

for teaching behavioral expectations (if available), then observed in the actual setting to determine how frequently this occurs.

Finally, times to interview the students were agreed upon by the building principal and child's teacher. Every attempt was made to avoid conducting the interviews during instructional time. The interviews took place either in the child's classroom or a location recommended by the teacher, preferably in a location adjacent to the classroom (i.e., teacher work room, hallway, etc.). With the exception of the classrooms used to collect data on inter-rater agreement, a single data collector was assigned to each classroom and responsible for all three data collection methods (i.e., teacher interview, student interview, and KFA).

CHAPTER IV

RESULTS

Measures of central tendency and variability were used to analyze item, domain (i.e., subscale), and total scores gathered for each type of informant (i.e., teacher, student, and Key Feature Analysis). Correlational analyses were used to investigate the relationship between the components of PBS and student outcomes (e.g., ODR's, rates of on-task behavior). Regression analysis was conducted to determine which individual or combination of data sources on the TACL-PBS had the greatest relation to positive student outcomes.

Research Question #1

What is the relationship between the number of critical components present in the classroom and positive student outcomes?

The data suggest that as the number of classroom components of PBS increased, the numbers of office discipline referrals decreased. The association was strongest between the degree to which the teacher used certain classroom management practices and ODR's. No real association was found between the presence of classroom PBS components and rates of on-task behavior with this sample. The only significant correlation found with rates of on-task behavior was the degree to which students reported the use of classroom management practices by the teacher.

Pearson product moment correlations were run and examined using the mean of the total scores from all three data collection methods (i.e., teacher, student, and key

feature analysis) to represent the number of critical components present in a classroom. Before completing correlations, a scatterplot of the data was created and the resulting relationships were generally linear. The mean total score, computed by aggregating the total scores from all methods, was 24.37 ($SD=2.42$)(out of a possible 34 points). Table 8 lists correlations between predictor (classroom PBS components represented by scores on the TACL-PBS) and outcome variables (office discipline referrals, rates of on-task behavior). Once again, the ODR's collected prior to data collection (pre), are provided for informational purposes only. The reader should note that the variable ODR(post) provides the more accurate reflection of discipline referrals.

The correlation between the mean total score and the number of office discipline referrals (ODR's) was weak ($r=-.14$). Also, the total score shows a weak negative correlation with the percent of students on-task in the classroom during the observation ($r=-.02$). Correlations were also run to examine the relationship between aggregated domain scores and outcomes. A low negative correlation was found between Domain E (Classroom Management/Teacher Skill) and ODR's ($r=-.38, p<.05$). No other correlations were found to be significant between the set of variables. Low correlations were also found between aggregated domain scores and rates of on-task behavior.

Analyzing the scores by method revealed a significant correlation between Domain E (Classroom Management/Teacher Skill) of the teacher interview method and ODR's ($r=-.35, p<.05$). In other words, as the number of classroom components as reported by teachers increased, the numbers of office discipline referrals decreased. In addition, a moderate (and significant) correlation was found between Domain E of the student interview method and rates of on-task behavior ($r=.44, p<.01$). This suggested

that as the numbers of classroom components as reported by students within Domain E increased, rates of on-task behavior increased.

Table 8

Correlations Between Classroom Components and Outcomes

<i>Domain</i>	<i>ODR (pre)</i>	<i>ODR (post)</i>	<i>% On Task</i>
A. Expectations Defined			
Student	.09	.05	.09
Teacher	.31	.26	-.18
KFA	.10	.13	-.34
Aggregated	.21	.22	-.29
B. Expectations Taught			
Student	.30	.39*	.00
Teacher	.27	.27	-.17
KFA	-.16	-.19	-.17
Aggregated	.06	.08	-.17
C. Reward System			
Student	.15	.01	.19
Teacher	.22	.22	.10
KFA	.30	.26	-.08
Aggregated	.33*	.25	.04
D. Consequence System			
Student	-.22	-.21	-.03
Teacher	.13	-.03	-.14
KFA	-.25	-.19	.08
Aggregated	-.21	-.23	-.01
E. Classroom Management			
Student	-.39*	-.29	.44**
Teacher	-.24	-.35*	-.28
KFA	-.36*	-.25	.16
Aggregated	-.45**	-.38*	.16
Total Scores			
Student	-.15	-.13	.29
Teacher	.17	.04	-.26
KFA	-.20	-.14	-.05
Aggregated	-.14	-.14	-.02

Note. ODR(pre)=office discipline referrals collected prior to start of data collection.; ODR(post)=office discipline referrals collected following data collection; % on-task=percent of students on-task during classroom observation.

* $p < .05$ level. ** $p < .01$.

To assess potential problems with the regression model, the standardized residuals were plotted for both the numbers of ODR's and rates of on-task behavior. Figure 2 suggests a violation of the constant variance assumption. Specifically, the variability of the residuals increases as the predictor values increase. The implication of this violation could be that the regression model will predict classrooms with lower numbers of ODR's more accurately than those with higher numbers of ODR's. Again, this finding is reported for informational purposes only since this dependent variable (i.e., ODR pre) is not being used in the regression analysis.

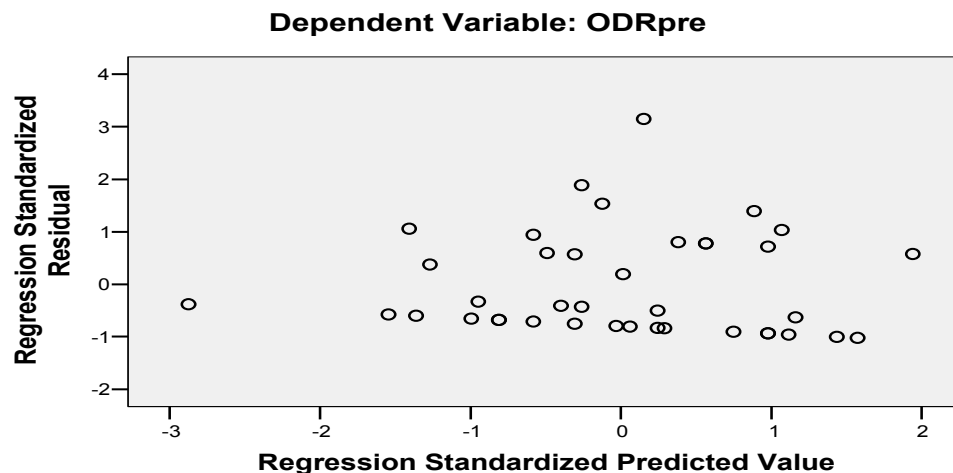


Figure 2. Scatter plot of standardized residuals and standardized predicted values of office discipline referrals (pre-)

The plots reflected in Figures 2 and 3 revealed that most residuals were centered around zero, suggesting no violation of assumptions. A correlation was run and examined between the two dependent variables, ODRs post and rates of on-task behavior. A low negative correlation was found between the dependent variables ($r = -.08$).

Scatterplot

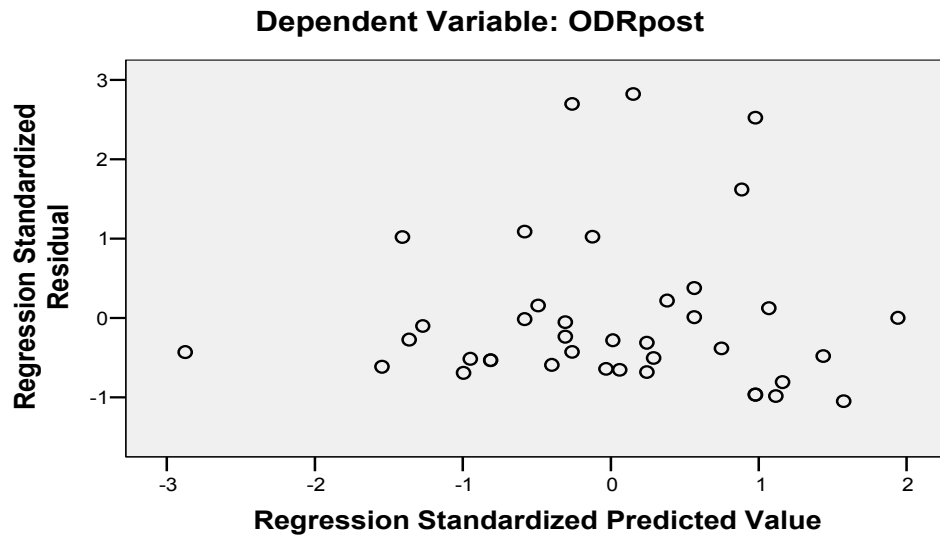


Figure 3: Scatter plot of standardized residuals and standardized predicted values of office discipline referrals (post-).

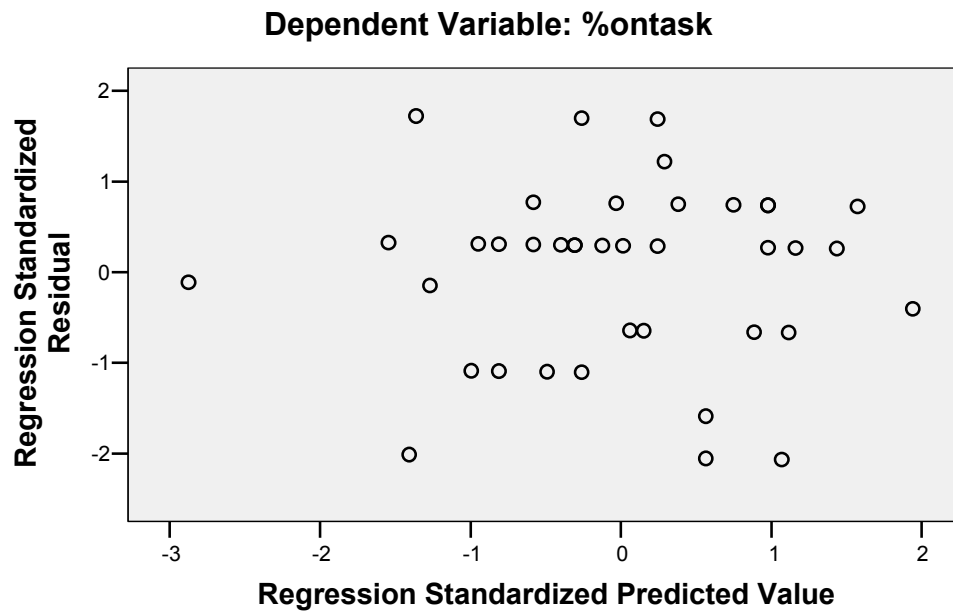


Figure 4: Scatter plot of standardized residuals and standardized predicted values of rates of on-task student behavior.

Research Question #2.1

Taken together, what is the relationship between the three data sources (i.e., data collection methods) and positive student outcomes?

Research Question #2.2

What is the relationship between each data source, after controlling for the effects of the other data sources?

Out of all the components assessed by the TACL-PBS, the teacher's use of classroom management practices had the greatest relation to the numbers of ODR's. The presence of preplanned and sequential procedures for responding to behavioral violations had the second highest relation to the numbers of discipline referrals in a classroom. Taken together, none of the classroom components of PBS measured by the TACL was significantly related to rates of on-task behavior.

The distribution of domain and total scores was examined as well as other variables included in the analysis. As one of the fundamental criterion for creating a reliable model, the mean, standard deviation, skewness, and kurtosis values were examined for all predictor variables. Skewness and kurtosis values indicated that the predictor variables were all approximately normally distributed. The mean, standard deviation, skewness, and kurtosis values are presented in Table 9. George and Mallery (2006) state that while kurtosis and skewness values of ± 1 are considered excellent, values between ± 2 are acceptable, depending on the particular application.

Table 9

Descriptive Statistics for Aggregated Mean Scores and Outcomes

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>
Total Scores	24.37	2.42	0.44	0.45
Domain A (Expectations Defined)	2.86	.56	-0.56	-0.91
Domain B (Expectations Taught)	2.37	.67	0.66	0.07
Domain C (Reward System)	4.55	.77	0.04	-1.08
Domain D (Consequence System)	7.92	.96	-0.39	-0.92
Domain E (Classroom Management)	6.68	1.25	0.32	-0.24
Office Discipline Referrals (pre)	2.35	3.00	1.21	1.09
Office Discipline Referrals (post)	4.43	5.38	1.78	2.60
Percent of Students On-Task	76.87	10.57	-0.47	-0.18

Note. ODR's (pre-) only reported for descriptive purposes.

The correlations between the five predictor variables were then reviewed for high intercorrelations, which can result in multicollinearity. The correlation between the domains Expectations Defined and Expectations Taught was significant ($r=.44$, $p<.01$). None of the other correlations were found to be significant. The intercorrelations for these variables are presented in Table 10.

Table 10

Intercorrelations Among TACL-PBS Domains

<i>Domain</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1. Expectations Defined	1.00				
2. Expectations Taught	.44**	1.00			
3. Reward System	.24	.31	1.00		
4. Consequence System	.01	.30	.06	1.00	
5. Classroom Management/ Teacher Skill	-.13	.24	-.04	.23	1.00

** $p<.01$

Using the aggregated model (mean domain scores for all data collection methods), a multiple regression analysis was conducted. Due to the small sample size ($N=40$), all

variables (i.e., items/domains) could not be entered into the regression analysis simultaneously. Therefore, the analysis was done at the domain-level only.

Taken together, the obtained R square value was .246, indicating that approximately 25% of the variance in office discipline referrals was explained by the set of predictors. The beta values indicate the relative influence of the entered variables. In this model, Domain E (Classroom Management/Teacher Skill) was significantly related to office discipline referrals ($\beta = -.35, p < .05$), followed by Domain D (Consequence System) ($\beta = -.20$). The direction of influence for these two variables is negative, while it is positive for the other three. The results of the regression analysis are provided in Table 10. Taken together, Domains A through E accounted for 13% of the variance in rates of on-task behavior. This model explained an insignificant amount of variance in the criterion variable.

Squared semipartial correlations were also examined for each of the predictors. Domain E (Classroom Management) uniquely accounted for 10% of the variability in ODR's, with Domain C (Reward System) and Domain D (Consequence System) each accounting for 3%. The squared semipartial correlations for rates of on-task behavior were all extremely small, indicating that none of the predictor variables made a significant contribution to the dependent variable.

Table 11

Multiple Regression Analysis Results for Aggregated Model (N=39)

<i>Domain</i>	<i>ODR's</i>		<i>% On-task</i>	
	β	<i>Squared semi-partial Correlation</i>	β	<i>Squared semi-partial Correlation</i>
Mean_A	.06	.00	-.24	.04
Mean_B	.13	.01	-.15	.01
Mean_C	.19	.03	.16	.02
Mean_D	-.20	.03	-.01	.00
Mean_E	-.35*	.10	.17	.03

Note. $R^2=.246$ for ODR's; $R^2=.130$.

* $p < .05$

A regression analysis also was conducted using all domains within each data collection method separately. Based on the domain scores for the *student interview method* only, Domains A through E accounted for approximately 24% of the variance in ODR's. Domain B (Expectations Taught) had the greatest relation to ODR's ($\beta=.53, p < .05$). The direction of influence, however, was positive. Domain D (Consequence System) was also significantly related to ODR's ($\beta=-.32, p < .05$) and the direction of the corresponding relationship was negative. All five domains accounted for approximately 24% of the variance in rates of on-task behavior as well. However, it was Domain E (Classroom Management/Teacher Skill) that had the greatest relation to the percentage of students on-task ($\beta=.44, p < .05$).

Including all domains (A through E) of the *teacher interview method* in the regression analysis accounted for 33% of the variance in ODR's. In this model, Domain E (Classroom Management/Teacher Skill) was found to have the greatest relation to ODR's ($\beta=-.47, p < .05$). No other domains had beta values that were statistically significant. Domains A through E accounted for 13% of the variance in rates of on-task

behavior. Like the student method, Domain E had the greatest relation to rates of on-task behavior ($\beta=-.23$). However, the value was not significant and the direction of influence was negative. None of the predictor variables were significantly related to rates of on-task student behavior.

For the *KFA method*, including all domains accounted for approximately 16% of the variance in ODR's. While Domain C (Reward System) was found to have the greatest relation to ODR's ($\beta=.23$), none of the predictor variables on the KFA method were found to explain a significant portion of variance in ODR's. A regression analysis found

Table 12

Summary of Multiple Regression Analysis Involving Each Data Collection Method

Domain	ODR's		% On-task	
	β	Squared Semi-Partial Correlation	β	Squared Semi-Partial Correlation
Model 1: Student Interview Method (N=116)				
A. Expectations Defined	.06	.00	-.01	.00
B. Expectations Taught	.53*	.21	-.02	.00
C. Reward System	-.09	.01	.22	.04
D. Consequence System	-.32*	.09	-.11	.01
E. Classroom Management/ Teacher Skill	-.24	.05	.44*	.19
	$R^2= .34$		$R^2= .24$	
Model 2: Teacher Interview Method (N = 40)				
A. Expectations Defined	.19	.03	-.15	.02
B. Expectations Taught	.33	.08	-.09	.01
C. Reward System	.11	.01	.13	.02
D. Consequence System	-.01	.00	-.10	.01
E. Classroom Management/ Teacher Skill	-.47*	.18	-.23	.04
	$R^2= .33$		$R^2= .13$	
Model 3: Key Feature Analysis Method (N = 39)				
A. Expectations Defined	.10	.01	-.29	.07
B. Expectations Taught	-.15	.02	-.17	.02
C. Reward System	.23	.05	-.01	.00
D. Consequence System	-.09	.01	.15	.02
E. Classroom Management/ Teacher Skill	-.16	.02	.10	.01
	$R^2= .16$		$R^2= .15$	

Note. * $p < .05$.

that Domains A through E accounted for approximately 15% of the variance in rates of on-task behavior, with Domain A (Expectations Defined) having the greatest relation to the criterion variable ($\beta = -.28$). None of the beta values were significant for either of the dependent variables. Table 11 provides a summary of the regression analysis results by data collection method.

Research Question #3

What is the relationship between the fidelity with which school-wide PBS is being implemented, implementation at the classroom-level, and positive student outcomes?

Overall, a low association was found between the TACL-PBS scores and the school's BOQ scores. However, a moderate relationship was indicated between the extent to which teachers had defined their behavioral expectations and the school's overall implementation level. Likewise, as the scores indicating evidence of direct teaching of the behavioral expectations in the classroom increased, so did the school's BOQ score. In other words, school's with higher overall Benchmarks of Quality scores, had classrooms with higher scores on Domains A (Expectations Defined) and Domain B (Expectations Taught).

To address the relation between a classroom's scores on the TACL-PBS and the school's score on the SW-BOQ, BOQ data were aggregated by classroom. To analyze the data, it was necessary to aggregate the data from the 40-case variable (i.e., classroom) in each school into a 10-case variable to match the BOQ scores. In other words, the scores from the four classrooms in each school were combined to represent 1 case. Concurrent validity coefficients were calculated for the mean total scores of the three data collection

methods with the BOQ total scores and are presented in Table 12. The concurrent validity coefficient for the aggregated total scores with the BOQ score was low (.24). However, moderate coefficients were indicated for Domains A (Expectations Defined) and B (Expectations Taught) with BOQ scores, .57 and .50, respectively. Domain E (Classroom Management/Teacher Skill) showed a low negative correlation with the school's BOQ score.

Further analysis of the correlations between the individual data collection methods (i.e., student interview, teacher interview, and key feature analysis) and BOQ total scores was done. A marked degree of correlation was indicated between Domain B (Expectations Taught) on the student interview method and BOQ total scores ($r=.65$, $p<.05$). A moderate degree of correlation was found between student Domain E (Classroom Management/Teacher Skill) and BOQ scores ($r=-.52$). Negligible to low correlations were found between the other domains of the TACL-PBS and BOQ total scores.

On the teacher interview method, a high significant correlation was found between Domain B (Expectations Taught) and BOQ total scores ($r=.89^{**}$, $p<.01$). A moderate degree of correlation was indicated between the teacher TACL and BOQ total scores ($r=.46$). No other domains on the teacher interview method were found to be significantly related to BOQ scores.

Finally, only one domain on the key feature analysis (KFA) was found to be noteworthy. Domain A (Expectations Defined) showed a marked degree of correlation with BOQ total scores ($r=.63$). Negligible to low correlations were indicated for all other domains of the TACL and BOQ scores.

Table 13

Correlations between TACL-PBS and BOQ Scores by Method

<i>TACL-Domain</i>	<i>Student</i>	<i>Teacher</i>	<i>KFA</i>	<i>All</i>
A. Expectations Defined	.32	.38	.63	.57
B. Expectations Taught	.65*	.89**	.13	.50
C. Reward System	.16	.36	.18	.35
D. Consequence System	.11	-.10	.16	.07
E. Classroom Management/ Teacher Skill	-.52	.11	-.28	-.24
Total Scores	.02	.46	.18	.24

Note. * $p < .05$. ** $p < .01$. $n = 10$.

In order to conduct a regression analysis involving BOQ scores (school-level variable) and TACL-PBS scores (classroom-level variable), TACL-PBS scores from the four classrooms within each school were aggregated. This aggregated variable was entered into the regression analysis along with the school's BOQ score to evaluate the relationship with ODR's and rates of on-task behavior. Analysis revealed that approximately 30% of the variance in ODR's was accounted for by the two predictors (TACL-PBS and BOQ total scores). A review of the beta values indicated that the TACL-PBS total score had the greatest influence on the numbers of office discipline referrals ($\beta = -.54$) and that knowing the school's BOQ score added little to the prediction equation. For rates of on-task behavior, 42% of the variance in this variable was accounted for by the two predictors. The beta values indicated that the predictors had about the same relative influence on the percentage of students on task (β 's = $-.41$ and $-.42$, respectively), however, the direction of influence for each was negative.

Summary

The results of this study found low to moderate degrees of association between the features assessed by the TACL-PBS and positive student outcomes. It appears that the teacher's consistent use of classroom management strategies had the greatest relation to the numbers of office discipline referrals written in classrooms. None of the predictor variables included in this study contributed significantly to differences in rates of on-task student behavior. Overall, it appeared that the fidelity with which school-wide PBS was being implemented at the building-level did not significantly predict implementation at the classroom-level.

CHAPTER V

DISCUSSION

In response to the increased emphasis of researchers on developing classroom systems of positive behavior support, the TACL-PBS was developed to investigate the components of positive behavior support systems (Ern, 2004). The purpose of the current study was to evaluate the degree to which implementation of the various features assessed by the TACL-PBS related to positive student outcomes. This chapter provides an overview of important points for the reader to consider in light of the findings, a brief discussion of the research results associated with each hypothesis, limitations of the current research study, and directions for future research.

Overview

School-based positive behavior support teams are often charged with the responsibility of examining data patterns to identify so-called “hot-spots” in the school, those settings in which excessive numbers of students are being referred for disciplinary action. Many times, the data suggest that a majority of discipline problems are occurring in classroom settings, rather than in non-classroom settings (i.e., cafeteria, hallway, special areas). Knowing this, teams may examine ODR rates across classrooms to help identify which teachers are referring the most children for disciplinary action. As part of a multi-tiered approach to troubleshooting behavioral interventions, school teams may use the TACL-PBS to help identify classroom factors that need to be addressed.

Therefore, in addition to its potential use as a research tool, the TACL-PBS can be thought of as practical tool for use by educators.

Using ODR's as an index of student behavior or to document the effectiveness of behavioral interventions is not new. Office discipline referrals (ODR's) have frequently been used as outcome measures in studies involving schools because they are routinely collected and commonly available. In fact, Hagan-Burke et al. (in review) found that the most common measures, used in about 75% of the studies, were from school archival data including ODR measures and achievement scores. Guskey (2000) suggests that school records of being sent to the office for disciplinary action are valuable for assessing and planning staff development efforts and for making comparisons between classrooms and schools.

While studying behavior patterns in schools may be common practice, educators should use caution in interpreting educational measures such as ODR's. Irvin et al. (2004) discuss this issue and use Messick's unified approach to construct validity as a framework for examining the value connotation of our interpretations and uses of ODR's. For example, it is common for educators to assign meaning to ODR measures such as how well order is being maintained in the classroom or school. Furthermore, Wright and Dusek (1998) encourage behavior specialists and others to study ODR patterns so that they can subsequently consult with teachers who frequently refer large numbers of students and to help them to use proactive classroom management strategies. Some studies have reported that a high number of ODR's, can indicate a reactive or negative classroom environment (Cohen, 2006; Taylor-Green & Kartub, 2000).

Irvin and colleagues (2004) discuss an important issue in understanding the validity of ODR's, specifically that each individual ODR represents a "stream or sequence of events...the convergence of a student's responses to a given situation, a teacher/staff member's response to the student's behavior, and an administrator's response to the student-teacher interaction." They further purport that the stream of events occurs within and in response to the values of those involved in that stream. For example, some teachers may never write office discipline referrals for student misbehavior. However, an observation of the classroom setting may reveal that at any given time a majority of students are off-task. In this case, we may be misinterpreting low numbers of ODR's as being indicative of an orderly classroom. This teacher may, in fact, be reluctant to send students to the office or to ask for behavioral support because of the fear of appearing less competent to handle disciplinary problems. Tobin and Sugai (1999) suggest that ODR's may in fact be an underestimate of what is really happening.

Discussion of Research Findings

A main interest of the current study was to examine the relationship between important features of classroom management and behavioral support and office discipline referrals. It was hypothesized that a classroom implementing a greater number of evidence-based practices would experience lower numbers of behavioral excesses, and consequently fewer office discipline referrals. The results of research question #1 suggested a low negative correlation between the number of PBS components present in a classroom (as measured by the TACL-PBS) and ODR's. While the direction of the correlation was expected, the strength of the relationship was lower than expected.

One possible explanation for this finding could be that only major ODR's were

collected for this study. That is, only behaviors that were deemed by the teacher to be severe enough to warrant administrative intervention were included in the analysis. While previous studies have provided evidence to support the interpretation of ODR's as valid school-wide behavioral indicators (Irvin et al., 2004), some questions exist as to whether or not they are sensitive enough for use at the classroom-level. School teams trained by Florida's Positive Behavior Support Project are taught to clearly differentiate and agree upon what constitutes a major (i.e., administrator-managed, ODR) versus minor (classroom-managed) discipline offense. Additionally, schools are encouraged to develop a format by which to record minor incidents of behavior problems (i.e., classroom behavior binder, minor behavior log, minor incident report to parent, etc.). Perhaps future studies involving classrooms should include both minor and major discipline events. Nonetheless, the same validity questions that apply to ODR's at the school-level, also apply to the classroom-level. For example, what does a high frequency of student referrals indicate? How many referrals is typical for a classroom? Too many?

It was also hypothesized that high scores on Domain B (Expectations Taught) would be most predictive of positive student outcomes. Horner et al. (2004) support the hypothesis that teaching behavioral expectations is a necessary feature to implement with fidelity in order for PBS to be most beneficial. Research is currently being done by J. Doolittle (personal communication, July 5, 2006) to validate the hypothesis that teaching expectations is critical to achieving implementation fidelity and sustainability. The current study found support for this hypothesis when examining correlational data from the student interview method only. However, analysis of the correlational data from all methods of data collection combined indicated that the teacher's skill in using certain

classroom management strategies (as measured by Domain E of the TACL-PBS) was most highly correlated with low numbers of office discipline referrals ($r = -.38, p < .05$). That is, as the evidence that the teacher's use of common classroom management practices increased, the numbers of discipline referrals from that classroom decreased. Some of the specific classroom management strategies assessed by the TACL-PBS included the teacher's use of advanced organizers and precorrections prior to transitions, and the teacher's use of immediate and behavior-specific praise. Research on the effects of such classroom management practices in bringing about reductions in behavioral incidences (including office discipline referrals) is well documented in the literature (Emmer et al., 1983; Evertson & Emmer, 1982). Witt, VanDerHeyden, and Gilbertson (2004) further purport that learning suffers in classrooms lacking fundamental management procedures.

Another commonly used measure of intervention effectiveness has been data from direct observation of student behavior. Several previous studies have documented that changes in ODR measures as a result of intervention were very similar to changes in data from direct observations (see Nelson, Colvin, & Smith, 1996). This study included a direct observation to obtain information on the rates of on- and off-task behavior. It was hypothesized that classrooms with higher numbers of critical PBS components in place would experience higher rates of on-task behavior than classrooms with lower numbers of PBS components.

Results found a low negative correlation between the presence of important PBS components in classrooms and rates of on-task student behavior. However, the correlation was so low so as to be negligible, suggesting that no real relationship existed

between the items on the TACL-PBS being used to evaluate the presence of these components and rates of on-task behavior. One plausible explanation could be reactivity. In other words, it is possible that the students in the classroom observed altered their behavior as a result of being observed. Also, because these observations were scheduled at a time agreeable to the classroom teacher, there is the possibility that the students were told ahead of time about the observation and reminded to be on their best behavior. Future studies should consider conducting multiple observations at random times.

It is noteworthy to discuss the finding that Domain E (Classroom Management/Teacher Skill) of the *student interview method* was again most highly correlated ($r=.44, p<.01$) with the criterion variable, rates of on-task behavior. In other words, for classrooms in which students themselves reported higher levels of classroom management skills on the part of the teacher, higher rates of on-task student behavior were documented. It makes sense that it is in classrooms where students have a clear knowledge of routines, receive ample amounts of positive feedback, and feel supported when they need assistance that students are more engaged in learning. All of these variables have been shown to increase on-task behavior in students (McKee & Witt, 1990; Walker & Severson, 1990). The above finding was also supportive of the researcher's original hypothesis that scores obtained by either the student interview method or the key feature analysis (KFA) would be more related to positive student outcomes than scores obtained by the teacher interview method.

Information gathered by the teacher interview method correlated the least with positive student outcomes. A review of mean scores from all methods revealed that teachers consistently reported a greater number of classroom PBS components than did

students and observers. The Ern (2004) study reported similar findings using the TACL-PBS. Several other studies have found that teacher self-report measures tend to overestimate actual treatment integrity (Sterling-Turner, Watson, & Moore, 2002; Witt, VanDerHeyden, & Gilbertson, 2004; Robbins & Gutkin, 1994). Ratings obtained from the teacher interview method were found to be less reliable in the majority of domains assessed.

Addressing the second research question, the finding that the teacher's use of fundamental classroom management practices correlated highest with the numbers of office discipline referrals was not surprising. In fact, Witt et al. (2004) refer to problems with what they call "classroom fundamentals" as contributing to student off-task behavior and academic difficulties.

While the results of this study support the original hypothesis that schools with higher BOQ scores would have classrooms that scored higher on the TACL-PBS than schools with lower BOQ scores, the correlation was quite low. One plausible explanation for this finding is that the two instruments are intended to measure different levels of PBS implementation (classroom vs. school). The fact that a negative correlation was found between Domain E (Classroom Management/Teacher Skill) and the BOQ score might be explained by the fact that the BOQ does not include any items related to classroom management. It also made sense that while a school may show evidence of implementing PBS at high levels, not all teachers within that school may be implementing the proposed system with the same fidelity. Only a small sample of teachers from each school was selected for participation in this study. It is not known to what degree these teachers are

representative of the implementation levels of all other teachers in their respective schools.

Summary

While this study has provided some insight into the relationship between the basic components of classroom PBS and behavioral outcomes, it has also raised additional questions. In other words, the current research found generally weak findings to support that the elements of PBS are strong predictors of the outcomes included in this study. However, further discussion is needed to determine what are the desired outcomes of PBS at the classroom-level. Is the goal of PBS in classrooms to maximize student learning? If so, perhaps additional research is needed that includes appropriate measures of academic achievement (i.e., academic accuracy rates, academic skills in relation to instructional standards).

Delimitations and Limitations

Several delimitations exist that have to do with sample selection. This study only included participants at two grade levels (2nd and 4th). Therefore, the results cannot be generalized to other grade levels, particularly middle and high school levels. While not all grade levels were sampled, an attempt was made to select at least one primary and one intermediate grade level. Because only schools that had been trained and had implemented school-wide PBS procedures for a minimum of one full year were included in this study, these results cannot be generalized to schools not implementing school-wide PBS. In addition, all of the schools that participated had received their initial training and ongoing technical assistance in school-wide PBS from Florida's Positive

Behavior Support Project. Therefore, generalizations cannot be safely made to schools outside of Florida. The sample size (N=40) for this study was relatively small.

As with any study involving the use of interviews, the information collected can be affected by how the interviewee wishes to be perceived by outsiders such as the researcher. The relationship between interviewer and interviewee can assist as well as limit the outcome of the interview (Rohrkemper, 1982). Attempts were made both verbally and on the consent form to explain to teachers and students that their participation was strictly voluntary and that their responses would in no way affect their status as employees or students. The value of the Key Feature Analysis, as described previously, was to provide an alternate source of information and to triangulate the data obtained by the other methods.

Because the KFA involved direct observation of both teacher and student behavior, there was the possibility of several observer effects. For example, an observer entering the classroom for the first time may arouse the curiosity of the students and may influence them to behave differently (Hintze, Volpe, & Shapiro, 2002). An attempt was made by the primary investigator to minimize this effect by having the observers make several visits beforehand so that the students and teachers would be more inclined to behave naturally.

Another common concern in research studies, including this one, is the validity of a single observation of student behavior (Volpe, DiPerna, Hintze, & Shapiro, 2005). The classroom observation technique used in this study was rather time-consuming (requiring a minimum of 40-minutes per classroom) and only allowed time to engage in a single observation. It is not clear whether the observed behavior was representative of

what normally occurs in each classroom. Future studies attempting to replicate this one may wish to consider conducting several short observations (for example, three 15-minute observations) of the same classroom rather than a single 40-minute observation. By doing this, researchers may also minimize reactivity of the children, or the likelihood that they will alter their behavior as a result of being observed

Due to the relatively small sample size included in this study, multiple regression analysis could only be conducted using the domain summary scores from the TACL-PBS to predict outcomes. A much larger sample will be required to examine the differential effects of individual items in predicting positive student outcomes. Gall, Gall, and Borg (2003) offer a rough rule of thumb for determining the sample size needed, approximately 15 subjects for each variable that will be included in the multiple regression analysis. Using this guideline, approximately 250 classrooms would be needed to conduct such a study.

Directions for Future Research

The focus of this study was on examining the relationship between classroom components of PBS and behavioral outcomes. Despite the limitations discussed in this chapter, it is believed that the information gained from this study will validly contribute to the ever-increasing body of research being conducted at all levels of positive behavior support systems in schools. Several significant relationships were described among the various components included in this study. Additional research should be conducted to examine the relationships between the various classroom components and academic

outcomes. Specifically, research designed to assess the influence of individual PBS components on academic achievement and productivity is encouraged.

Through examining the indices of internal consistency and the correlational structure of the TACL-PBS, it was clear that some of the items detracted from the overall reliability of the scale/instrument. Because of this, future studies may find that the reliability and correlational structure can be improved by deleting certain items altogether, only using certain items from one or more informants, or by combining variables that are moderately or highly correlated with each other (for example, combining Domains A and B to create one subscale). While the reliability of the instrument could likely be improved, it should be recognized that the lower reliability levels may be sufficient for the type (i.e., criterion-referenced) of measure and for the intended purposes of the study. In other words, our principle concern with criterion-referenced testing is with the reliability of decisions, and not as much with the reliability of the test. Nonetheless, factor analysis studies should be done to identify commonalities in the items on the TACL-PBS and to determine whether the five subscales (i.e., domains) could be grouped into a smaller number of factors.

Finally, this study only included schools that had been implementing a school-wide PBS system for at least one academic year. Future research is encouraged to examine differences in results in comparing schools that have been implementing a school-wide PBS system to those that have not (i.e., comparing PBS schools to non-PBS schools).

REFERENCES

- Achenbach, T. M., McConaughy, S. H., & Howell, C. T. (1987). Child/adolescent behavioral and emotional problems: Implications for cross-informant correlations for situational specificity. *Psychological Bulletin*, 101 (2), 213-232.
- Baer, D. M., Wolf, M. M., & Risley, T. R. (1968). Some current dimensions of applied behavior analysis. *Journal of Applied Behavior Analysis*, 1, 91-97.
- Becker, W. C. & Thomas, D. R. (1968). Rules, praise, and ignoring: Elements of elementary classroom contact. *Journal of Applied Behavior Analysis*, 1, 139-150.
- Berliner, D. C. (1985). Effective classroom teaching: The necessary but not sufficient condition for developing exemplary schools. In G. R. Austin & H. Garber (Eds.), *Research on Exemplary Schools*, Orlando, FL: Academic Press.
- Brophy, J. E. (1979). Teacher behavior and student learning. *Educational Leadership*, 37, 33-38.
- Brophy, J.E. (1981). Teacher praise: A functional analysis. *Review of Educational Research*, 51 (1), 5-32.
- Brophy, J. & Good, T. L. (1986). Teacher behavior and student achievement. In M.C. Wittrock (Ed.), *Handbook on Research on Teaching* (3rd ed.) (pp.328-337). New York: MacMillan.
- Cavalier, A., Touchette, B., Allison, G.S. (2003, March). *Tales from the trenches: Barriers to successful positive behavior support*. Symposium conducted at the

meeting of the First International Conference on Positive Behavior Support,
Orlando, FL.

Childs, K., Hermann, K., & O'Shannon, S. B. (2003, March). *Maximizing effectiveness using positive behavior support methods in the classroom*. Symposium conducted at the meeting of the First International Conference on Positive Behavior Support, Orlando, FL.

Cohen, R. (2006). *Implementing school-wide positive behavior support: Exploring the influence of socio-cultural, academic, behavioral, and implementation process variables*. Unpublished manuscript. University of South Florida at Tampa.

Colvin, G., Sugai, G., Good, R. H., & Lee, Y. (1997). Using active supervision and precorrection to improve transition behaviors in an elementary school. *School Psychology Quarterly*, 12 (4), 344-363.

Cotton, K. (n.d.). Schoolwide and classroom discipline. *School Improvement Research Series*, 9. Retrieved March 4, 2003, from <http://www.nwrel.org/scpd/sirs/5/cu9.html>.

Cushing, L. S. (2000). Descriptive analysis in the school social structure of elementary and middle school students. Unpublished doctoral dissertation. University of Oregon, Eugene.

Eidle, K. A., Truscott, S. D., Meyers, J., & Boyd, T. (1998). The role of prereferral intervention teams in early intervention and prevention of mental health problems. *School Psychology Review*, 27 (2), 204-216.

Electronic reference formats recommended by the OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports. Retrieved March 7, 2003, from http://www.pbis.org/englisg/Classroom_Support.htm.

- Emmer, E., Evertson, C., & Anderson, L. (1980). Effective management at the beginning of the school year. *The Elementary School Journal*, 80, 219-231.
- Emmer, E. T., & Stouber, L.M. (2001). Classroom management: A critical part of educational psychology with implications for teacher education. *Educational Psychologist*, 36, 103-113.
- Enloe, J. T. (n.d.) *Skills essential to effective classroom management*. Retrieved March 4, 2003, from Sevier County, TN Special Education Web site:
<http://www.slc.sevier.org/skill4em.htm>.
- Ern, G. (2004). *An analysis of classroom systems of positive behavior support*. Unpublished manuscript, University of South Florida at Tampa.
- Evertson, C. M. & Emmer, E. T. (1982). Effective management at the beginning of the school year in junior high classes. *Journal of Educational Psychology*, 74, 485-498.
- Florida Positive Behavior Support Project, University of South Florida, Tampa. (2002, May). *Positive Behavior Support: Comprehensive Assessment Tool*. Retrieved August 8, 2002, from the FL PBS Project Web site: <http://flpbs.fmhi.usf.edu>.
- Florida Positive Behavior Support Project, University of South Florida, Tampa. (2004, May). *School-wide Benchmarks of Quality*. Retrieved March 30, 2005, from the FL PBS Project Web site: <http://flpbs.fmhi.usf.edu>.
- Gall, M. D., Gall, J., & Borg, W. R. (2003). *Educational research: An introduction* (7th ed.). Boston: Allyn and Bacon.

- Gottfredson, D. C. (1989). Developing effective organizations to reduce school disorder. In Oliver C. Moles (Ed.), *Strategies to Reduce Student Misbehavior*, (pp. 87-104) Washington, D.C.: Office of Research and Improvement.
- Gottfredson, G.D. & Gottfredson, D.C. (1985). *Victimization in schools*. New York: Planum Press.
- Gresham, F. M. (2004). Current status and future directions of school-based behavioral interventions. *School Psychology Review*, 33(3), 326-343.
- Grossman, D.C., Neckerman, H.J., Koepsell, T.D., Liu, P., Asher, K.N., Beland, K., Frey, K. & Rivara, F.P. (1997). Effectiveness of a violence prevention curriculum among children in elementary school: A randomized controlled trial. *Journal of the American Medical Association*, 277, 1605-1611.
- Guskey, T. R. (2000). *Evaluating professional development*. Thousand Oaks, CA: Corwin Press.
- Hagan-Burke, S., Sugai, G., Ingram, K., Their, K., Garrett, U., Derickson, E., Calderhead, W., Lewis-Palmer, T., & Tobin, T. (in review). Descriptive synthesis of school-wide discipline research.
- Hitz, R., & Driscoll, A. (1989). Praise in the classroom. *ERIC Clearinghouse on Elementary and Early Childhood Education*. Retrieved March 4, 2003, from <http://www.ericfacility.net/ericdigests/ed313108.html>.
- Hopkins, D. (2002). *A teacher's guide to classroom research*. Philadelphia: Open University Press.

- Horner, R. H., Sugai, G., Lewis-Palmer, T., & Todd, A. W. (2001). Teaching school-wide behavioral expectations. *Report on Emotional and Behavioral Disorders in Youth*, 1(4), 77-96.
- Horner, R.H., Todd, A.W., Lewis-Palmer, T., Irvin, L.K., Sugai, G., & Boland, J. B. (2004, Winter). The school-wide evaluation tool (SET): A research instrument for assessing school-wide positive behavior support. *Journal of Positive Behavior Interventions*, 6(1), 3-12.
- Irvin, L., Tobin, T., Sprague, J. R., Sugai, G., Vincent, C. G. (2004). Validity of office discipline referrals measures as indices of school-wide behavioral status and effects of school-wide behavioral interventions. *Journal of Positive Behavior Interventions*, 6(3), 34-52.
- ISBE EBD/PBIS Network. (2004). *End of year report (FY04)*. Available from www.ebdnetwork-il.org.
- Johnson, T. C., Stoner, G., & Green, S. K. (1996). Demonstrating the experimenting society model with classwide behavior management interventions. *School Psychology Review*, 25(2), 199-214.
- Kern, L. & Manz, P. (2004). A look at current validity issues of school-wide behavior support. *Behavioral Disorders*.
- Knoff, H. M. , & Batsche, G. M. (1995). Project ACHIEVE: Analyzing a school process for at-risk and underachieving students. *School Psychology Review*, 24, 579-603.
- Kounin, J. (1970). *Discipline and group management in classrooms*. New York: Holt, Rinehart, and Wilson.

- Langland, S., Lewis-Palmer, T., & Sugai, G. (1998). Teaching respect in the classrooms: An instructional approach. *Journal of Behavioral Education*, 8, 245-262.
- Loeber, R., Green, S. M., Lahey, B. B., & Stouthamer-Loeber, M. (1991). Differences and similarities between children, mothers, and teachers as informants on disruptive child behavior. *Journal of Abnormal Child Psychology*, 19 (1), 75-89.
- Locke, L.F., Spirduso, W. W., & Silverman, S. J. (2000). *Proposals that work: A guide for planning dissertations and grant proposals* (4th ed.). Thousand Oaks, CA: Sage.
- Loeber, R., & Dishion, T. J. (1983). Early predictors of male delinquency: A review. *Psychological Bulletin*, 94, 68-99.
- Lohrmann, S. & Talerico, J. (2004). Anchor the boat: A classwide intervention to reduce problem behavior. *Journal of Positive Behavior Interventions*, 6(2), 113-120.
- Madsen, C. H., Jr., Becker, W. C., & Thomas, D. R. (1968). Rules, praise, and ignoring: Elements of elementary classroom control. *Journal of Applied Behavior Analysis*, 1, 139-150.
- Mayer, G. R. (1995). Preventing antisocial behavior in the schools. *Journal of Applied Behavior Analysis*, 28, 467-478.
- Mayer, G. R., Nafpaktitis, M., Butterworth, T., & Hollingsworth, P. (1987). A search for the elusive setting events of school vandalism: A correlational study. *Education and Treatment of Children*, 10, 259-270.
- McKee, W.T., & Witt, J.C. (1990). Effective teaching: A review of instructional and environmental variables. In T.B. Gutkin & C.R. Reynolds (Eds.), *The handbook of school psychology* (pp. 823-847). New York: John Wiley & Sons.

- Minuchin, S. (1974). *Families and family therapy*. Cambridge, MA: Harvard University Press.
- Nafpaktitis, M. & Perlmutter, B. (1998). School-based early mental health intervention with at-risk students. *School Psychology Review, 27*(3), 420-432.
- Nelson, J.R., Colvin, G., & Smith, D.J. (1996). The effects of setting clear standards on students' social behavior in common areas of the school. *The Journal of At-Risk Issues, 3*, 10-18.
- Patterson, G. R., DeBaryshe, B., & Ramsey, E. (1989). A developmental perspective on antisocial behavior. *American Psychologist, 44*, 329-335.
- Patterson, G. R., Reid, J. B., & Dishion, T., J. (1992). *Antisocial boys*. Eugene, OR: Castalia Press.
- Rabiner, D. L., Murray, D. W., Schmid, L., & Malone, P. (2004). An exploration of the relationship between ethnicity, attention problems, and academic achievement. *School Psychology Review, 33*(4), 498-509.
- Reynolds, C. R., & Kamphaus, R. W. (1992). *Behavior Assessment System for Children Manual*. Circle Pines, MN: American Guidance Service.
- Rohrkemper, M. M. (1982). Teacher self-assessment. In D. L. Duke (Eds.), *Helping teachers manage classrooms* (pp. 77-96). Alexandria, VA: Association for Supervision and Curriculum Development.
- Rosenshine, B. V. (1985). Synthesis on research on explicit teaching. *Educational Leadership, 43*, 60-69.

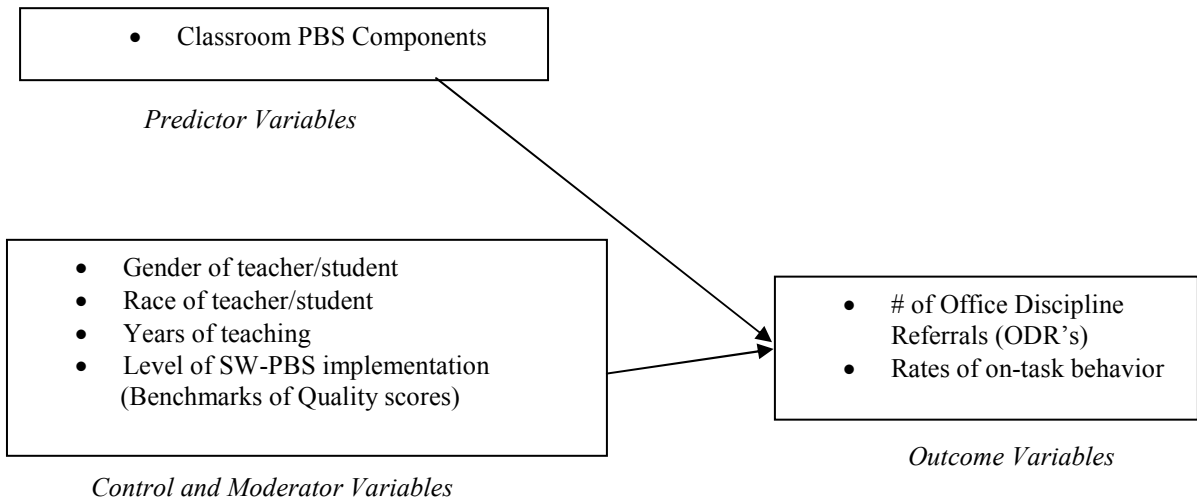
- Rosenshine, B. & Stevens, R. (1986). Teaching functions. In M.C. Wittrock (Ed.), *Handbook of Research on Teaching* (3rd ed.) (pp. 376-391). New York: MacMillan.
- Schaefer, B. A. (2004). A demographic survey of learning behaviors among American students. *School Psychology Review*, 33(4), 481-497.
- Shinn, M.R., Ramsey, E., Walker, H.M., O'Neill, R., & Steiber, S. (1987). Antisocial behavior in school settings: Initial differences in an at-risk and normal population. *Journal of Special Education*, 2(1), 69-84.
- Stage, S. A. & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. *School Psychology Review*, 26(3), 333-368.
- Sterling-Turner, H. E., Watson, S. T., & Moore, J. W. (2002). The effects of direct training and treatment integrity on treatment outcomes in school consultation. *School Psychology Review*, 17, 47-77.
- Sugai, G. & Horner, R. H. (2002). The evolution of disciplinary practices: School-wide positive behavior supports. *Child and Family Behavior Therapy*.
- Sugai, G., Lewis-Palmer, T., Todd, A.W., & Horner, R.H. (2001). *Systems-wide Evaluation Tool: School-Wide (SET-SW)*. University of Oregon.
- Sulzer-Azaroff, B., & Mayer, G. R. (1991). Behavior analysis for lasting change. Fort Worth, TX: Holt, Rinehart, & Winston.
- Taylor-Greene, S., Brown, D., Nelson, L., Gassman, T., Cohen, J., Swartz, J., Horner, R. H., Sugai, G., & Hall, S. (1997). School-wide behavioral support: Starting the year off right. *Journal of Behavioral Education*, 7(1), 99-112.

- Taylor-Greene, S. J., & Kartub, D. T. (2000). Durable implementation of school-wide behavior support: The high five program. *Journal of Positive Behavior Interventions, 2*, 233-235.
- Tobin, T. J., & Sugai, G. M. (1999). Using sixth grade school records to predict violence, chronic discipline problems, and high school outcomes. *Journal of Emotional and Behavioral Disorders, 7* (1), 40-53.
- Todd, A.W., Haugen, L., Anderson, K., & Spriggs, M. (2002). Teaching recess: Low cost efforts producing effective results. *Journal of Positive Behavior Interventions*.
- Verlinden, S., Hersen, M., & Thomas, J. (2000). Risk factors in school shootings. *Clinical Psychology Review, 20*(1), 3-56.
- Volpe, R. J., DiPerna, J. C., Hintze, J. M., & Shapiro, E. S. (2005). Observing students in classroom settings: A review of seven coding schemes. *School Psychology Review, 34*, 454-473.
- Walker, H.M. (2004). Use of evidence-based interventions in schools: Where we've been, where we are, and where we need to go. *School Psychology Review, 33*(3), 398-407.
- Walker, H. M., & Severson, H. H. (1990). Systematic screening for behavior disorders (2nd ed.), Longmont, CO: Sopris West.
- Walker, H. M., Horner, R. H., Sugai, G., Bullis, M., Sprague, J. R., Bricker, D., & Kaufman, M. J. (1996). Integrated approaches to preventing antisocial behavior patterns among school-age children and youth. *Journal of Emotional and Behavioral Disorders, 4*, 193-256.

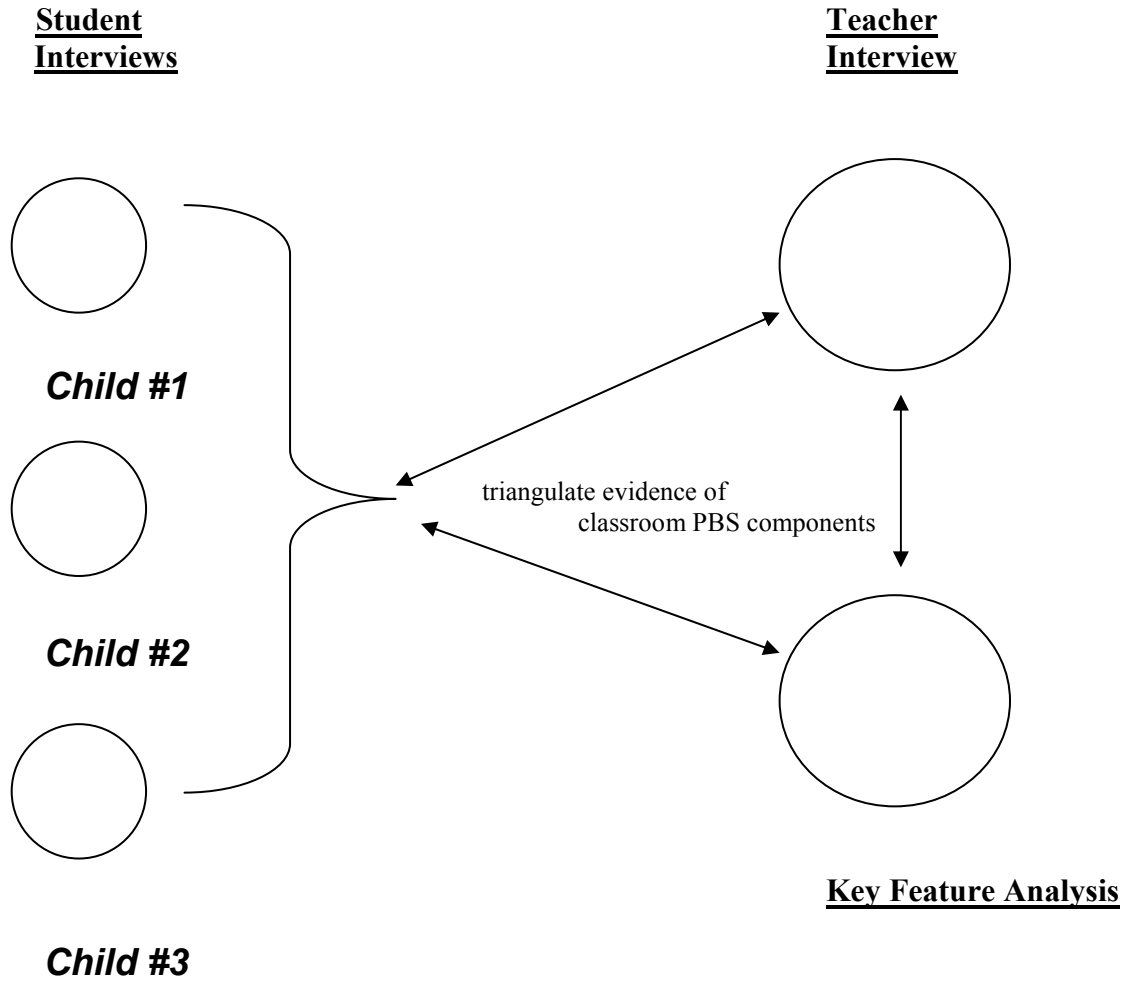
- Walker, H. & Sylwester, R. (1998). Reducing students' refusal and resistance. *Teaching Exceptional Children*, 30(6), 52-58.
- Walker, H.M. & Walker, J. T. (1991). *Coping with noncompliance in the classroom: A Positive approach for teachers*. Austin, TX: Pro-Ed Publishing.
- Weigle, K. L. (1997). Positive behavior support as a model for promoting educational inclusion. *Journal of the Association for Persons with Severe Handicaps*, 22, 36-47.
- Witt, J. C., VanDerHeyden, A. M., & Gilbertson, D. (2004). Troubleshooting behavioral interventions: A systematic process for finding and eliminating problems. *School Psychology Review*, 33(3), 363-383.
- Wright, J. A. & Dusek, J. B. (1998). Compiling school base rates for disruptive behaviors from student disciplinary referral data. *School Psychology Review*, 27(1), 138-147.
- Ysseldyke, J. & Christenson, S. (1993-1996). *TIES-II: The instructional environment system – II*. Longmont, CA: Sopris West.

Appendices

Appendix A: Illustration of Research Design



Appendix B: Overview of the Data Collection Methods



<u>Level</u>	<u>Number of Participants</u>
School	10
Grade	2 (2 nd and 4 th grades)
Classroom	40 (4 from each school)
Student	120 (3 from each classroom)

Appendix C.1: TACL-PBS TEACHER RESPONSE EVALUATION SHEET

Classroom Code: _____ Start Time: _____ Completion Time: _____

Gender: _____ Ethnicity: _____ Yrs. Teaching: _____

FEATURE	TEACHER INTERVIEW ITEM	TEACHER RESPONSES Record teacher response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
A. Expectations Defined Summary Scores: TI = ___/4	1. What are the school-wide expectations? (0= none; 1= one or two; 2= all)		_____
	2. What are your classroom rules? (alt.) List the rules you have for appropriate behavior in your classroom? (0= unable to name any specific rules for classroom setting; 1= names one or more total; 2= can name one or more per school expectation)		_____
B. Behavioral Expectations Taught Summary Scores: TI = ___/4	1. Have you directly taught the school rules/behavioral expectations to your students this year? How? (0= no; 1= one but not both; 2= yes, both)		_____
	2. When do you teach/remind students of these rules & expectations? (0=not taught; 1= taught at the beginning of year or in response to behavioral violation; 2= ongoing, frequent teaching)		_____

Appendix C.1 (Continued)

FEATURE	TEACHER INTERVIEW ITEM	TEACHER RESPONSES Record teacher response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
<p>C. Ongoing System for Rewarding Behavioral Expectations</p> <p>Summary Scores: TI = _/6</p>	<p>1. Do you reward/acknowledge students for displaying expected behaviors, other than by verbal praise? How? (0=no; 2=yes)</p>		_____
	<p>2. How often do you deliver rewards (i.e., tickets,tokens) to your students for displaying expected behaviors? (0=I don't / never; 1=sometimes /couple of times per week; 2=frequently, throughout the day)</p>		_____
	<p>3. Is the system for rewarding expected behaviors in your classroom consistent with school-wide procedures? How? (0=no;1=mostly, some variations; 2=yes)</p>		_____

Appendix C.1 (Continued)

FEATURE	TEACHER INTERVIEW ITEM	TEACHER RESPONSES Record teacher response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
<p>D.</p> <p>System for Responding to Behavioral Violations</p> <p>Summary Scores: TI = ___/10</p>	<p>1. Is your classroom system for dealing with problem behavior consistent with the school-wide procedures? (0=no/DK; 1=somewhat; 2=yes)</p>		<hr/>
	<p>2. In that system, what types of student misbehavior do you refer to the office? (0=none; 1=lists a mix of majors and minors; 2=majors only)</p>		<hr/>
	<p>3. What types of misbehavior do you handle within the classroom? (0=all/none; 1=lists majors & minors; 2=lists minors only)</p>		<hr/>
	<p>4. What is your plan for managing student misbehavior (e.g., talking out, out-of-seat, unprepared for class) that does not get referred to the office? (0 = no evidence of sequential or preplanned procedures; 1= preplanned but not sequential; 2 = preplanned and seq.)</p>		<hr/>

Appendix C.1 (Continued)

FEATURE	TEACHER INTERVIEW ITEM	TEACHER RESPONSES Record teacher response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	5. Do you feel that you are consistent in addressing behavior problems when they occur in your classroom? Explain. (0=no; 1=somewhat/partially; 2=yes)		<hr/>
E. Teacher Skill/ Classroom Management Summary Scores: TI = _/10	1. What have you taught your students to do during down-time (i.e., when they finish their assigned work early)? (0=no evidence of established routine; 1=little evidence; 2=clear)		<hr/>
	2. Do you use strategies (e.g., verbal reminders, behavioral rehearsal, or demonstration) to try and prevent problem behavior prior to major transition settings? b) When? How frequently? 0=could not name any; 1=some evidence; 2=clear evidence)		<hr/>

Appendix C.1 (Continued)

FEATURE	TEACHER INTERVIEW ITEM	TEACHER RESPONSES Record teacher response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	3. a) Currently, do you feel that you provide more positive to negative interactions with your students? b) Ratio? (0=more negative to positive; 1=unsure, about the same; 2=more positive to negative)		<hr/>
	4. (a)When do you deliver praise to students in your classroom? (b) How do you do deliver praise? (0=neither immediate nor descriptive; 1=one or the other, not both; 2= immediate & descriptive)		<hr/>
	5. What methods do you use to make sure that your students understand the lesson or assigned task? (0= unable to name any; 1=names one method; 2=more than one method)		<hr/>

TEACHER INTERVIEW TOTAL SCORE = ____/34

PERCENT = ____

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
<p>A. Expectations Defined</p> <p>Summary Scores: SI = __/4</p>	<p>1.1 What are the school expectations? 1.2 What are the school rules? 1.3 What are the (4 R's, 3 B's, ABC's)? (0=none; 1=one or two;2=names all)</p> <hr/> <p>2.1 What are the classroom rules? 2.2 Do you know the rules in your classroom? What are they? 2.3 Do you know what the teacher expects of you? What? (0=unable to name any;1=one or more total; 2 = one or more per expectation)</p>		<p>_____</p> <p>_____</p>
<p>B. Behavioral Expectations Taught</p> <p>Summary Scores: SI = __/4</p>	<p>1.1 Did your teacher specifically teach you both the school rules and the classroom rules? How? 1.2 How do you know what the school/class rules are? For example, did she teach them to you, from seeing posters around? 1.3 How did you learn the (4 R's, 3 B's, ABC's)? (0=no;1=one but not both; 2=yes,both)</p>		<p>_____</p>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	<p>2.1 Does your teacher frequently teach/remind you of the classroom rules & expectations? When?</p> <p>2.2 How often does your teacher tell you or remind you of the school /classroom rules?</p> <p>2.3 When does your teacher tell you/remind you of what she expects from you? (0=no; 1= begin of year or in response to behavioral violation; 2=often)</p>		<p>_____</p>
<p>** Circle the number for the question used first, then underline the number for any alternate/successive questions used with the student.</p>			
<p>C. Ongoing System for Rewarding Behavioral Expectations</p>	<p>1.1 Does your teacher reward students for following the class rules /expectations? How?</p> <p>1.2 What does your teacher do when kids do something right, like following the 4 R's, 3 B's, ABC's? & class rules?</p> <p>1.3 What does your teacher do when kids show good behavior in class? (0=no/nothing; 1=yes, verbal only; 2= yes)</p>		<p>_____</p>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
D. System for Responding to Behavioral Violations Summary Scores: SI = __/10	1.1 Do other adults in this school respond to (punish) behavior problems in the same way that your teacher does? 1.2 Does your teacher do the same thing if you do something wrong as other teachers (adults) in the school do? (0=no/unsure/DK; 1=some do /somewhat; 2=yes) 2.1 In your classroom, what kind of misbehavior gets kids sent to the office? 2.2 What kinds of stuff does your teacher send you to the office for? 2.3 Are there some rules that kids break that always get you sent to the principals office? (0= no/nothing; 1= lists mix of majors and minors; 2= majors only) 3.1 What kind of misbehavior does your teacher handle within the classroom? 3.2 Are there some rules that kids break that your teacher always takes care of...which doesn't get sent to the office? (0= everything/nothing; 1= lists majors and minors; 2=minors only)	<hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	<p>4.1 What does your teacher do if you do not follow the rules for things like talking out, being out-of-seat, not prepared for class?</p> <p>4.2 What happens if you don't do what the teacher wants and it's not something that gets you sent to the principal's office? (0=shows no knowledge of preplanned procedures; 1=some knowledge; 2=clear knowledge of preplanned and sequential procedures)</p> <hr/> <p>5.1 Do you feel that your teacher is fair by always acting the same way every time kids in your class do not follow the rules?</p> <p>5.2 If you do something wrong, more than once, does your teacher always do the same thing?</p> <p>5.3 When kids in your class don't follow a rule (for example, not raising their hand) does your teacher do the same thing each time? (0=no; 1=sometimes; 2= yes, all the time)</p>		<hr/> <hr/>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
<p>E. Teacher Skill/ Classroom Management</p> <p>Summary Scores: SI = __/10</p>	<p>1.1 What do you do when you finish your assigned work?</p> <p>1.2 Do you know what to do in class when you finish your work? What? (0= no knowledge of established routine; 1=some knowledge; 2= clear knowledge of routine)</p> <p>2.1 (E) Does your teacher remind you of or have you practice the rules/expectations throughout the day (i.e., entering the classroom, returning from recess, going from classroom to cafeteria, etc.)? When? How often?</p> <p>2.2 (E)(S)What does your teacher do/say to get you ready to go to the cafeteria, specials, next class, to make sure that you follow the school rules (4 R's, ABC's, 3 B's)? (0=no/DK; 1=gives some evidence; 2=clear evidence)</p> <p>* (E) denotes question appropriate for use at elementary-level; (S) denotes question appropriate at secondary-level</p>	<hr/> <hr/> <hr/>	<hr/> <hr/>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	<p>3.1 Does your teacher give kids positive feedback (say good things to them when they do something right) and corrective feedback (when they do something wrong or incorrect)? Which happens more?</p> <p>3.2 Which happens more...teacher says good things to kids when they do things right or tells kids when they do things wrong? (0= more negative to positive; 1= unsure, about the same; 2= more positive to negative)</p> <p>4.1 Give an example of (a) when and (b)how your teacher might tell you that you have done something right.</p> <p>4.2 How does you teacher tell you when you've done a good job? (0= not immediate or descriptive; 1= one or other; 2= both immediate & descriptive)</p>	<hr/> <hr/> <hr/>	<hr/> <hr/>

Appendix C.2 (Continued)

FEATURE	STUDENT INTERVIEW ITEM	STUDENT RESPONSES Record student response verbatim. The following abbreviations should also be used: DK, NR, Q, DNUQ	Score 0-2
	5.1 How does your teacher make sure you understand what he/she is teaching? 5.2 Does your teacher try to help students who don't understand their work? How? (0= s/he doesn't; 1=names one way; 2=provides more than one way)		_____

STUDENT INTERVIEW TOTAL SCORE = ____/34

PERCENT = _____

Classroom Code: _____ Start Time: _____ Completion Time: _____

Appendix C.3: TACL-PBS KEY FEATURE ANALYSIS RECORD SHEET

Activity: whole class/teacher directed independent seat work small group
 centers other

FEATURE	KEY FEATURE ANALYSIS	OBSERVATIONS/DOCUMENTATION Use following abbreviations to record the type of information used to answer questions: O=observation, PP=permanent product, NE= no evidence	Score 0-2
<p>A. Expectations Defined</p> <p>Summary Scores: KFA = __/4</p>	<p>1. Are the agreed upon rules and expectations publicly posted in the classroom? (0=neither; 1=one but not both; 2=both are publicly posted)</p> <p>2. Are the positively stated student behaviors and routines for the classroom aligned with the established school-wide expectations? (0=no; 1= partially; 2= yes)</p>	<hr/> <hr/>	<hr/> <hr/>
<p>B. Behavioral Expectations Taught</p> <p>Summary Scores: KFA = __/4</p>	<p>1. Is there a documented system for teaching behavioral expectations to students?(Review lesson plans, instructional materials) (0=no; 2=yes)</p> <p>2. How frequently does this occur? (0= not observed; 1= in response to behavioral violation; 2= ongoing reminders/precorrection)</p>	<hr/> <hr/>	<hr/> <hr/>

Appendix C.3 (Continued)

FEATURE	KEY FEATURE ANALYSIS	OBSERVATIONS/DOCUMENTATION Use following abbreviations to record the type of information used to answer questions: O=observation, PP=permanent product, NE= no evidence	Score 0-2
<p>C. Ongoing System for Rewarding Behavioral Expectations</p> <p>Summary Scores: KFA = _/6</p>	<p>1. Is there a documented system for rewarding student behavior? (review lesson plans, instructional materials, observation) (0=no; 2=yes)</p> <p>2. During the observation period, how often did the classroom teacher deliver rewards/acknowledgment (other than verbal praise) of expected student behavior? (0=not at all; 1=once or twice; 2=three or more times)</p> <p>3. Is the system that you observed consistent with SW procedures? (review) (0=no; 1=mostly, some variations; 2=yes)</p>	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

Appendix C.3 (Continued)

FEATURE	KEY FEATURE ANALYSIS	OBSERVATIONS/DOCUMENTATION Use following abbreviations to record the type of information used to answer questions: O=observation, PP=permanent product, NE= no evidence	Score 0-2
<p>D.</p> <p>System for Responding to Behavioral Violations</p> <p>Summary Scores: KFA = _/10</p>	<p>1. Classroom procedures for dealing with problem behaviors are aligned with school-wide procedures? (review products & observe) (0 = no; 1 = somewhat, partially; 2 = yes)</p> <p>2. Review SWIS data to determine types of behavior referred to office from this classroom(0=none; 1= mix of majors & minors; 2 = majors only)</p> <p>3. Review SWIS data, minor behavior log, or observe to determine types of behavior managed within the classroom. (0=all/none;1=mix of majors & minors; 2=minors only)</p> <p>4. Are there preplanned and sequential procedures (i.e., written plan) for dealing with and reporting specific behavioral violations? (review products and observe) (0=no/NE;1=preplanned but not sequential; 2=yes)</p>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>

Appendix C.3 (Continued)

FEATURE	KEY FEATURE ANALYSIS	OBSERVATIONS/DOCUMENTATION Use following abbreviations to record the type of information used to answer questions: O=observation, PP=permanent product, NE= no evidence	Score 0-2
	5. Are the consequences delivered consistently in this classroom?(classroom behavior logs, direct observation) (0=no; 1=unclear; 2=yes)		<hr/>
E. Teacher Skill/ Classroom Management Summary Scores: KFA = _/10	1. Do routines exist for non-academic business (i.e., use of free time) so as to limit unstructured down-time? (0=no/NE; 1=some evidence; 2=yes, clear evidence) 2. Does the teacher use advanced organizers or precorrections prior to major transitions? (0=no/not observed; 1=rarely; 2=frequently) 3. What was the observed ratio of positive to negative (corrective) interactions in this classroom during the observation period? (0=more negative to positive; 1= about the same; 2=more positive to negative)	<hr/> <hr/> <hr/>	<hr/> <hr/> <hr/>

Appendix C.3 (Continued)

FEATURE	KEY FEATURE ANALYSIS	OBSERVATIONS/DOCUMENTATION Use following abbreviations to record the type of information used to answer questions: O=observation, PP=permanent product, NE= no evidence	Score 0-2
	<p>4. Does the classroom teacher use immediate and behavior descriptive praise with students? (0=no evidence of this; 1= one or other, but not both; 2= yes, both observed)</p> <p>5. Methods are frequently used by the teacher to check for student understanding before beginning or within the first few minutes of independent seat work? (0=not observed; 1=one method observed; 2=more than one method observed)</p>	<hr/> <hr/>	<hr/> <hr/>

KFA TOTAL SCORE = ____/34

PERCENT = ____

Classroom Observation Coding: Observe a different child every two minutes according to the predetermined subset of children selected for observation. Observe each child for 10 seconds, then indicate below whether the child was on- (✓) or off-(-) task during that interval.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

On-task behavior _____%

Off-task behavior _____%

Appendix D: Benchmarks of Quality Scoring Form

School-Wide Benchmarks of Quality: SCORING FORM							
School Name: _____				District: _____			
Coach's Name: _____				Date: _____			
<p>STEP 1: Coach uses the Scoring Guide to determine appropriate point value. Circle ONLY ONE response.</p> <p>STEP 2: Indicate your team's most frequent response. Write the response in column 2. (in place ++, needs improvement +, or not in place -). If there is a tie, report the higher score.</p> <p>STEP 3: Place a check next to any item where there is a discrepancy between your rating and the team's rating. Document the discrepancies on page 3.</p>							
Critical Elements	STEP 1					STEP 2 ++, +, or -	STEP 3 ✓
PBS Team	1. Team has broad representation			1	0		
	2. Team has administrative support	3	2	1	0		
	3. Team has regular meetings (at least monthly)		2	1	0		
	4. Team has established a clear mission/purpose			1	0		
Faculty Commitment	5. Faculty are aware of behavior problems across campus (regular data sharing)		2	1	0		
	6. Faculty involved in establishing and reviewing goals		2	1	0		
	7. Faculty feedback obtained throughout year		2	1	0		
Effective Procedures for Dealing with Discipline	8. Discipline process described in narrative format or depicted in graphic format		2	1	0		
	9. Process includes documentation procedures			1	0		
	10. Discipline referral form includes information useful in decision making		2	1	0		
	11. Behaviors defined	3	2	1	0		
	12. Major/minor behaviors are clearly identified/understood		2	1	0		
	13. Suggested array of appropriate responses to minor (non office-managed) problem behaviors			1	0		
	14. Suggested array of appropriate responses to major (office-managed) problem behaviors			1	0		

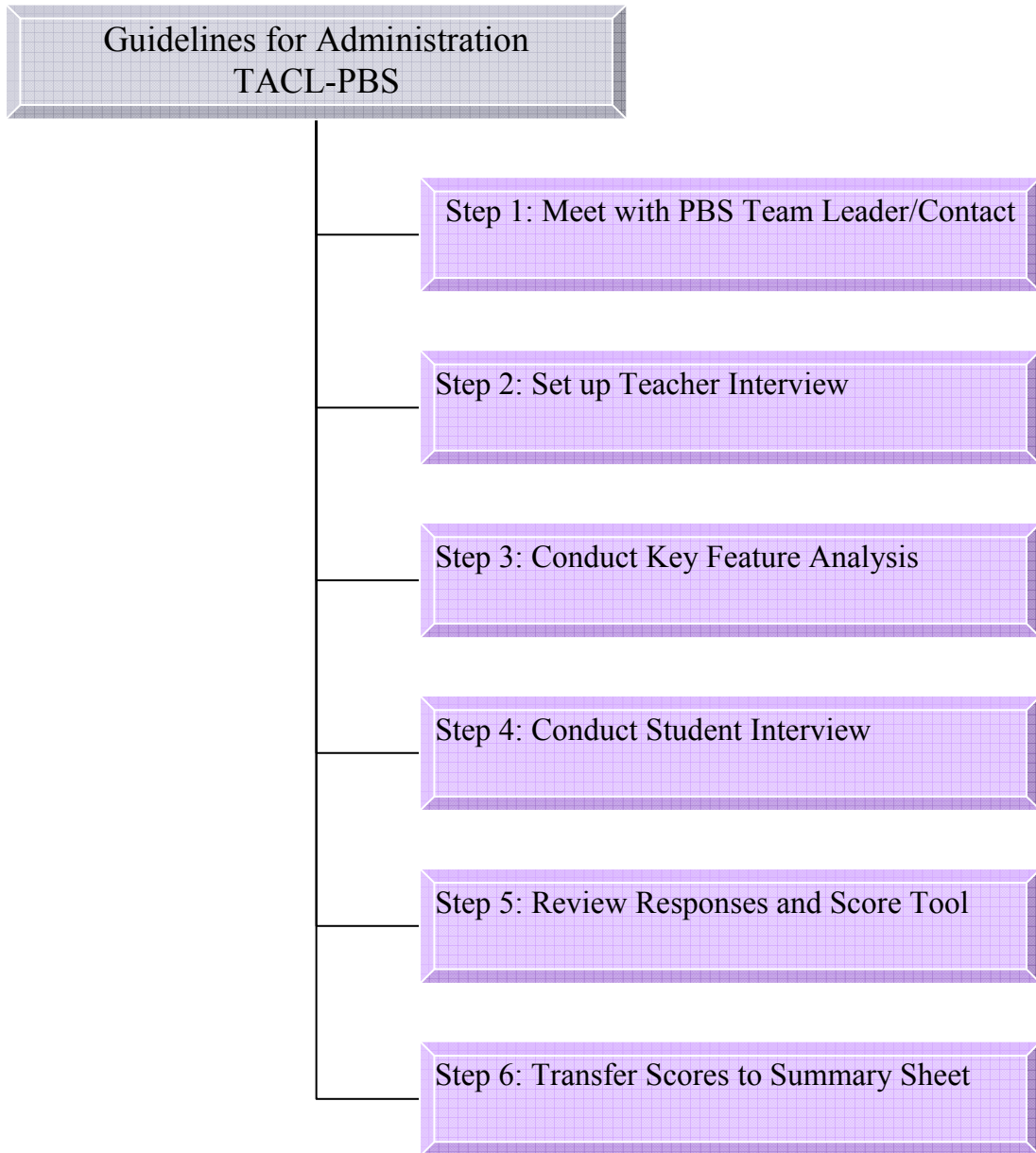
Appendix D (Continued)

Critical Elements	STEP 1					STEP 2 ++, +, or	STEP 3 ✓
Data Entry & Analysis Plan Established	15. Data system to collect and analyze ODR data	3	2	1	0		
	16. Additional data collected (attendance, grades, faculty attendance, surveys)			1	0		
	17. Data entered weekly (minimum)			1	0		
	18. Data analyzed monthly (minimum)		2	1	0		
	19. Data shared with team and faculty monthly (minimum)		2	1	0		
Expectations & Rules Developed	20. 3-5 positively stated school-wide expectations posted around school	3	2	1	0		
	21. Expectations apply to both students and staff	3	2	1	0		
	22. Rules developed and posted for specific settings (where problems are prevalent)		2	1	0		
	23. Rules are linked to expectations			1	0		
	24. Staff feedback/involvement in expectations/rule development		2	1	0		
Reward/Recognition Program Established	25. A system of rewards has elements that are implemented consistently across campus	3	2	1			
	26. A variety of methods are used to reward students		2	1	0		
	27. Rewards are linked to expectations	3	2	1	0		
	28. Rewards are varied to maintain student interest		2	1	0		
	29. System includes opportunities for naturally occurring reinforcement			1	0		
	30. Ratios of reinforcement to corrections are high	3	2	1	0		
	31. Students are involved in identifying/developing incentives			1	0		
	32. The system includes incentives for staff/faculty		2	1	0		
Lesson Plans for Teaching Expectations/ Rules	33. A behavioral curriculum includes concept and skill level instruction		2	1	0		
	34. Lessons include examples and non-examples			1	0		
	35. Lessons use a variety of teaching strategies		2	1	0		
	36. Lessons are embedded into subject area curriculum		2	1	0		
	37. Faculty/staff and students are involved in development & delivery of lesson plans			1	0		
	38. Strategies to reinforce the lessons with families/community are developed and implemented			1	0		

Appendix D (Continued)

Critical Elements	STEP 1				STEP 2 ++, +, or	STEP 3 ✓
Implementation Plan	39. Develop, schedule and deliver plans to teach staff the discipline and data system		2	1	0	
	40. Develop, schedule and deliver plans to teach staff the lesson plans for teaching students		2	1	0	
	41. Develop, schedule and deliver plans for teaching students expectations/rules/rewards	3	2	1	0	
	42. Booster sessions for students and staff are planned, scheduled, and delivered		2	1	0	
	43. Schedule for rewards/incentives for the year is planned			1	0	
	44. Plans for orienting incoming staff and students are developed and implemented		2	1	0	
	45. Plans for involving families/community are developed & implemented			1	0	
Crisis Plan	46. Faculty/staff are taught how to respond to crisis situations			1	0	
	47. Responding to crisis situations is rehearsed			1	0	
	48. Procedures for crisis situations are readily accessible			1	0	
Evaluation	49. Students and staff are surveyed about PBS		2	1	0	
	50. Students and staff can identify expectations and rules		2	1	0	
	51. Staff use discipline system/documentation appropriately	3	2	1	0	
	52. Staff use reward system appropriately	3	2	1	0	
	53. Outcomes (behavior problems, attendance, morale) are documented and used to evaluate PBS plan	3	2	1	0	
TOTAL _____						

Appendix E: TACL-PBS Guidelines for Administration



Appendix E (Continued)

Step 1: Meeting with PBS Team Leader/School Contact

Prior to conducting the actual interviews or classroom observations, data collectors will need to familiarize themselves with the school-wide PBS procedures. The purpose of this meeting is to ascertain the expectations set forth by the PBS Team and administration that apply to both staff and students. Oftentimes, schools that are implementing a school-wide PBS process have developed a handbook which describes all of the information listed below:

- What are the school-wide expectations?
- Were teachers expected to develop behavioral lesson plans to teach classroom rules/school-wide expectations?
- What are the school's procedures for handling major vs. minor discipline infractions?
- What is the process used to track office discipline referrals (i.e., database, logs)?
- What are the school-wide procedures for rewarding behavioral expectations?

The data collector will also want to request a map of the school including teacher names, grade levels, and room numbers.

Step 2: Setting up/Conducting the Teacher Interview

Once it is determined which teacher(s) will be interviewed, it is necessary for the data collector to obtain a copy of the teacher's daily schedule. Every attempt should be made to avoid conducting the interview during instructional time. Potential times to conduct the teacher interview include teacher planning time, before, or after school. It is also helpful to conduct the interview in the teacher's classroom, if possible, so that you have more ready access to permanent products and can preview the physical arrangement of the classroom.

Explain to the teacher the purpose of the TACL-PBS, that it should only take approximately 15 minutes to complete, and that they can discontinue their participation at any time. Further explain that you will be recording their responses verbatim to ensure accuracy.

After conducting the actual interview, be sure to request the teacher's permission to preview any behavioral lesson plans or permanent products such as classroom management tools that are readily available. Finally, establish a time to conduct the classroom observation. It will be critical for the data collector to know the teacher's daily schedule and routine so as to make sure they observe during a time that includes a major transition event (i.e., classroom to cafeteria, classroom to cultural arts, one classroom to another, etc.).

Step 3: Conducting the Key Feature Analysis (KFA)

Upon entering the classroom, the data collector should position themselves so as to be as unobtrusive as possible. Record the starting time on the record sheet as well as the type of activity that is taking place (i.e., whole class/teacher directed instruction, independent seat work, small group, centers, other). It is optimal for the data collector to observe during a time that includes both teacher directed instruction and independent seat work. The goal of conducting the KFA is to capture evidence of the PBS features that are

Appendix E (Continued)

present in the classroom. Therefore, the data collector needs to document the source of information used to provide evidence of that feature (e.g., direct observation, review of permanent products, other). It is recommended that scores be assigned to items after the observation is over so that the data collector has time to carefully review their notes.

Step 4: Conduct the Student Interviews

Every attempt should be made to avoid interviewing the child during academic instruction time. The interview should take place either in the classroom or in a location recommended by the teacher, preferably in a location adjacent to the classroom (i.e., teacher work room, hallway, etc.). Inform the student that they will be asked a series of questions about their classroom and that it should only take about 15 minutes to complete. The student does not have to participate if they do not want to and can stop at any time during the interview. Be sure to record the starting and stopping times on the student response sheet. It is best when asking questions of the students to do so in a conversational style, rather than formal question and answer. The student interview provides alternate questions for each item. If the data collector does not feel like the student understands the question, then cycle down to an alternate question until you feel that the student has given their best response. Circle the question number which is asked first, then use a single underline to identify the next question asked, a double underline under the next question, and so on.

It is useful to use the teacher's name (for example, Mrs. Smith) rather than "your teacher..." in questions, particularly with students who change classes throughout the day. Also, using the school-specific acronym (motto) when inquiring about the behavioral expectations is recommended. The data collector will need to be aware of what the students refer to as their school-wide reinforcement/reward (Bear Bucks, Tiger Tickets, Class Cash, etc.) when asking questions related to the system for rewarding behavioral expectations.

During the interview, record the student responses verbatim so as to ensure accuracy in scoring. The data collector should wait until after the interview to score the individual items and record the summary scores. Scoring should occur as soon as possible after the interview while the information is fresh on the data collector's mind.

Step 5: Reviewing Responses and Scoring Tool

Carefully review teacher and student responses prior to assigning a score on the evaluation sheets. It is also important on the KFA to make sure that adequate information has been collected to provide evidence of the presence or absence of each PBS feature. Scores for each item range from 0 to 2, with 0 representing no evidence of that feature being implemented, 1 representing some or partial evidence, and 2 representing clear evidence. Calculate summary scores for each domain by adding up the number of points assigned within that domain (e.g., 2/4 means the informant received a score of 2 out of a possible 4 points for that domain). Next, calculate total scores by adding together the summary scores for each feature. The total score represents the percent of features that are reported by that informant. Finally, the data collector can transfer all of the scores to the Score Summary Sheet. This allows the data collector to analyze the level of agreement between all informants (i.e., teacher, student, and KFA).

Appendix F: Teacher and Parent Consent Forms

Dear Teacher,

I would like to request your cooperation in a study evaluating the relationship between classroom features of positive behavior support and student outcomes. You were randomly selected to participate in this study because your school has been involved with the School-Wide Positive Behavior Support (PBS) Project for at least a year. It is anticipated that the information obtained from this study will contribute to an understanding of the critical features of classroom-level behavioral support and management practices.

If you should decide to participate, you will be asked a series of questions regarding the presence or absence of PBS features. It is anticipated that each interview will take approximately 15- minutes to complete. In addition, an unobtrusive observation of the classroom environment will be scheduled at a time convenient to you. For classrooms selected to participate in this study, the observer/data collector may ask to review any behavioral lesson plans, instructional materials, behavior logs, or other permanent products prior to conducting the actual observation. Three students from your classroom will be randomly selected to answer their own series of questions, similar to those that you answered. Informed consent will also be obtained from the parents of the students selected to participate.

Participants (e.g., teachers, students, schools) will not be identified by name in any reports of this research. Rather, they will be assigned a unique numeric code for data collection and reporting. Your privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, the USF Institutional Review Board and its staff, and other individuals, acting on behalf of USF, may inspect the records from this research project.

Your signature below indicates that you voluntarily agree to participate in this study and that you have read and understand the information in this consent form. Your decision to participate in this study will not affect your job status with this school district. You further understand that there are no direct benefits nor are there any foreseeable risks associated with participating in this study. You are free to withdraw consent or discontinue participation at any time.

If you have any questions that this letter has not answered, you may contact me at (772) 564-4870. If you have questions about your rights as a person who is taking part in a research study, you may contact the Division of Research Compliance of the University of South Florida at (813) 974-5638.

Thank you.

Teacher's signature: _____ Date: _____

Investigator's Signature: _____ Date: _____
Gregory S. Ern, Ed.S.

Appendix F (Continued)

Dear Parent:

I am requesting your permission for your child to participate in a study of classroom features of positive behavior support (PBS). PBS is a general approach to designing school and classroom systems that focus on creating safe and encouraging environments while preventing and remediating problem behavior. Your child was randomly selected to participate in this study because his or her school has been involved with the district's School-wide PBS Project, and because he or she is in a classroom in which the teacher has agreed to participate. This information will contribute to an understanding of the critical features of classroom-level behavioral support and management practices.

If you should allow your child to participate, he or she will be asked a series of questions regarding key features of their classroom environment. It is anticipated that each interview will take approximately 15- minutes to complete. In addition, every attempt will be made to avoid interviewing your child during academic instruction time. Your child will be one of several children from his or her school to be randomly selected to participate in this study. All children will be asked to respond to the same series of questions.

Participants (e.g., teachers, students, schools) will not be identified by name in any reports of this research. Rather, they will be assigned a unique numeric code for data collection and reporting. Your child's privacy and research records will be kept confidential to the extent of the law. Authorized research personnel, employees of the Department of Health and Human Services, the USF Institutional Review Board and its staff, and other individuals, acting on behalf of USF, may inspect the records from this research project.

Your signature below indicates that you have read and understand the information above, and that you have decided to allow your child to participate in a study of classroom features of positive behavior support that will be conducted in his or her regularly scheduled class. There are no direct benefits nor are there any foreseeable risks associated with participating in this study. Participation is voluntary and will not affect the child's status as a student or their grades. You and your child are free to withdraw consent or discontinue participation at any time. If you desire a copy of this consent form, one will be provided to you. If you have any questions that this letter has not answered, you may contact me at (772) 564-4870. If you have questions about your rights as a person who is taking part in a research study, you may contact the Division of Research Compliance of the University of South Florida at (813) 974-5638.

Thank you.

Child's Name: _____

Parent's signature: _____

Date: _____

Investigator's Signature: _____

Date: _____

Gregory S. Ern, Ed.S.

About the Author

Gregory Ern received his doctoral degree in School Psychology from the University of South Florida, Tampa. He received an Educational Specialist degree in School Psychology at the University of Central Florida in 1996 and a Bachelor of Arts in Psychology from Auburn University in 1993. He has spent the last 10 years working as a School Psychologist in the public schools in Florida during which time he has been involved in several systems-level initiatives including School-wide PBS. Mr. Ern has spent the last five years serving as the District Positive Behavior Support Coordinator, responsible for building the system's training, coaching, and funding capacity as it relates to PBS. In addition to being certified by Florida's Department of Education, Mr. Ern is a Nationally Certified School Psychologist and is licensed by Florida's Department of Health. Mr. Ern resides with his wife and two sons in Vero Beach, Florida.