EFFECTS OF POSITIVE BEHAVIOR SUPPORT SYSTEM ON STUDENT LEARNING IN K-12 CLASSROOMS

By

Jerome J. Sardina

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION AT NORTHERN MICHIGAN UNIVERSITY

November 30, 2012

APPROVED BY:

DATE:
Table of Contents

Abstract .......................................................................................................................................... 4

Chapter 1: Introduction .................................................................................................................. 5
  Statement of the Problem .................................................................................................. 6
  Research Questions ............................................................................................................ 6
  Definitions of Terms .......................................................................................................... 7
  Summary ............................................................................................................................ 8

Chapter 2: Review of Literature .................................................................................................. 10
  Effectiveness of Office Discipline Referrals ................................................................... 11
    Analysis of Data Collection Tools ....................................................................... 11
  Effects on Behavior .......................................................................................................... 14
    School-wide Effects ............................................................................................. 14
    Individual Student Effects .................................................................................... 17
  Academic Achievement and Time Saved ........................................................................ 19
  Other Effected Areas ........................................................................................................ 23
    School Climate ........................................................................................................... 23
    Teacher Efficacy ......................................................................................................... 24
    Student Engagement ................................................................................................. 25
  Effecting Different Students and Schools ........................................................................ 27
  Barriers to Implementation .............................................................................................. 32

Chapter 3: Results and Analysis Relative to Problem ................................................................. 34
  Effecting All Students ...................................................................................................... 34
Chapter 4: Recommendations and Conclusion

Recommendations

Areas for Further Research

Conclusion

References
Abstract

In response to the growing concern among educators regarding student behavior, educators, are seeking solutions. One solution that has emerged from the study of human behavior is Positive Behavior Support. The PBS approach was first introduced in the 1990’s and since then is growing in popularity among public schools. The increased exposure of PBS has resulted in compilations of data, which are used to determine PBS effectiveness. Through this literature review, I use data to help shed light on the effectiveness of PBS implementation on specific areas such as student achievement, school climate, and its effect on different groups of students. Results indicate PBS has many positive effects and educators can embrace a somewhat new method of behavior support with confidence as they strive to improve their schools.
Chapter 1: Introduction

Students across our country attend school every day with one expectation; teachers and principals will do their very best in providing the highest quality education to children possible. Anything short of doing our very best for our nation’s students and our country’s future would be morally and ethically unjust. However, with the passing of IDEA 2007 and inclusion policies, shrinking budgets, declining enrollment, and other obstacles facing school districts, it is becoming increasingly more difficult each day to accomplish what every school desires, preparing students for a competitively global world. In order for schools to have confidence that the graduated students are ready for life beyond high school, officials need to look at the process being used to educate those same students. Chief among areas being considered is determining ways to increase student learning. Plaguing public schools today is a lack of understanding of interventions or strategies to implement not only to increase what students know but also to increase the number of students prepared for life beyond high school.

One attempt at increasing student learning that is gaining in popularity across our country is the implementation of school-wide positive behavioral interventions and supports (SWPBIS). PBS strives to prevent disruptive and other unacceptable behavior and promote a positive school culture. Through ongoing monitoring, evaluation, and new interventions, school officials are hopeful that placing such an emphasis on student behavior has an overall positive effect on student achievement (Bradshaw, Debnam, Koth, & Leaf, 2009). However, before such a daunting task is undertaken by educators, including training and spending district dollars, principals are asking one important question: Does the research indicate that PBS works to a degree worthy of school-wide implementation? An unequivocal answer is imperative for school
leaders because students deserve the best our educational system has to offer, and our duty as educators, demands our best.

Statement of the Problem

The major problem is to determine whether integrating a school wide positive behavior support system into a k-12 school setting increases student learning. Teachers and administrators have a daunting task of not only educating and preparing students for an ever changing, complex, and competitive world, but to teach and prepare better than ever before. High stakes evaluations and severe consequences for not improving learning has educators concerned. Our educational leaders and teachers cannot afford to spend time and energy on initiatives where uncertainty is commonplace. Educators must have confidence that the desired results will be achieved once they implement a new strategy. Therefore, this study will explore and make available information regarding the effects of school-wide positive behavior support systems on three major areas: student achievement, the learning environment, and on specific sub-groups of students.

Research Questions

By addressing certain questions raised during this study, teachers and administrators will have access to more information and will be able to make decisions that are more informed. Consequently, educators will be able to continue to look for most effective ways to increase student learning.

1. To what extent does positive learning support system effect the achievement of students identified to be of behavioral or at risk concerns?
2. To what extent does positive learning support system have on other elements of student learning, such as school culture, discipline, and student attendance?
Definition of Terms

Reviewing Positive Behavior Support (PBS) reveals several essential key terms, which are important for readers to understand. The terms listed will be used frequently throughout this review. Familiarity with the terms will help readers gain a better understanding and a deeper knowledge of PBS. Terms listed were gathered from peer reviewed articles researched and reviewed, and are cited in the reference section.

**Applied Behavior Analysis (ABA).** The process of identifying unacceptable behavior and systematically applying interventions, which are research based to improve behavior. ABA also demonstrates through implementation that the interventions selected have a direct effect on improving the behavior (Johnston, Foxx, Jacobson, & Green, 2006).

**Positive Behavior Support.** An approach for identifying poor behavior and through a specific strategy decrease problem behavior occurrences and improve the quality of a person’s life. PBS uses research and data to determine why a child has challenging behavior and teaches the child new more acceptable behavioral skills (Dunlap, Carr, Horner, Zarcone, & Schwartz, 2008).

**Student achievement.** Student learning. Students being able to understand what is being taught and be able to do something with new knowledge. Growth in learning which is identified by differences in prior knowledge versus new knowledge (Keengwe, Schnellert, Mills, 2012).

**Developmental Disabilities.** Mental and/or physical impairments which cause a person to have problems in such areas as learning, language, mobility, and independent living (Johnston et al., 2006).
**Special Education.** Supportive type of education of students with special physical, cognitive, and/or learning disabilities. The education provided is structured in such a way to address the disability (Johnston et al., 2006).

**At risk.** An at-risk student is one who may have one or more of the following circumstances:

1. A student who has not advanced to the next grade level.
2. A student who is not maintaining a 70% in two or more core subject areas.

A student who is pregnant, is a parent, previously expelled, on parole, or probation, previous dropout, limited English proficiency, homeless, or resides in a residential placement facility (Maninger, 2006).

**Behavioral problems.** Inappropriate or negative behaviors which are exhibited by students, which have a harmful and negative effect on social, cultural, and learning environments within the school atmosphere (Muscott, Mann, & LeBrun, 2008).

**RtI.** Response to Intervention/Instruction. A specific targeted strategy to improve a specific area of learning.

**Fidelity.** The degree to which an intervention or program is delivered as intended. Also analyzing and comprehending the intervention allows practitioners to understand how and why an intervention works (Bradshaw, Debnam, Koth, & Leaf, 2009)

**Summary**

What once was a relatively stable environment, education is now as volatile as ever. Educators all across our country are under relentless pressures to change the face of education, particularly in regards to increasing student learning. Some pressure comes from legislatures who increase demands placed on school districts and some pressures come from within the
district itself, as educational leaders look for constant improvement. Regardless of who or where the pressure to change comes from, one thing is for certain, educators are looking for ways to increase student achievement. Some of the ways educators have attempted to increase learning is by reducing class sizes, the use of co-teaching strategies, and cooperative learning strategies. Other areas include additional teaching hours, intervention classes for struggling students, summer school, and a host of other great ideas. One can clearly see how teaching has been the focal point in all of the above-mentioned strategies. However, the spotlight has just recently shifted from teaching to learning. Consequently, classroom management and student behavior are now points of interest for educational leaders. Principals are certainly aware that undesired student behavior has a negative impact on overall student achievement. What principals are uncertain of is how strategies and specific interventions will work and consequently bring about the desired outcomes. One specific intervention gaining in popularity and being implemented is school wide positive behavior support. However, before leaders decide whether to implement a school wide strategy, leaders must have reliable information. Light needs to be shed on the effectiveness of positive behavior support and several questions need to be addressed, in turn helping educational leaders to make sound decisions, which are in the best interest of all students.
Chapter II: Review of Literature

Until the 1950’s it was thought that people with severe intellectual deficiencies could not learn because of behavioral concerns, which impeded learning. Consequently, people with developmental disabilities were given custodial care and were not taught (Johnston et al., 2006). However, after much study, the science of Applied Behavior Analysis (ABA) emerged into society. Researchers indicated ABA could identify specific undesirable human behaviors in people with developmental disabilities, and through a series of interventions, behavior could be modified into socially acceptable alternatives. Eventually ABA expanded and researchers determined the theory behind ABA applies to everyone, not just the developmentally disabled, resulting in special needs individuals being placed in lessor restrictive environments (Anderson & Freeman, 2000). As the focus was on individuals with disabilities, educators became interested in ABA and the possible affects it could have on education. In an effort to apply ABA theory in education, teachers began recognizing unacceptable behavior, and through aversive actions, tried to modify the behavior in order for teachers to teach more effectively. Educators once thought if the behavior was targeted and the student disciplined, the behavior would cease and the classroom environment would become more conducive to learning. Over time however, researchers and educational leaders began realizing aversive actions to correct behavior, especially with special needs students, were not having a significant effect on the teaching environment. Additionally, the aversive actions taken towards disabled students created much controversy. On-going efforts to improve the classroom environment through student behavior modification led to the development of Positive Behavior Support Systems (PBS) in schools in the late 1980’s (Dunlap et al., 2008). Positive Behavior Support took the framework of ABA and
applied non-aversive behavior modification strategies in an effort to improve student behavior. Like ABA, PBS analyzes the behavior. However, where PBS differs is more value and focus is placed on the individual displaying the unacceptable behavior rather than on the behavior. For example, instead of simply disciplining poor behavior, as is the case with ABA, PBS advocates will analyze possible contributing factors to the poor behavior such as environment, home life, and socio-economic status. When the value is placed on an individual after considering all the evidence for the poor behavior, specific procedures and steps are taken towards working with the student. These steps are specific to the individual, are meaningful based upon the evidence, and are person-centered (Anderson & Freeman, 2000). Certainly, the behavior is disciplined, however under PBS rules; the discipline is specific to the student’s needs and more meaningful for the student. With a new paradigm shift in managing student behavior, educators are eager to see results before they spend valuable time and money training staff and implementing new school-wide policies. One of the easiest ways for educational leaders to be convinced PBS is the more effective and efficient approach to student behavior, is by reviewing office discipline referrals.

**Effectiveness of Office Discipline Referrals**

Typically, behavior measurements fall within two categories, direct observation, and indirect observation. Whereas direct observation is preferred, it is very time consuming and costly, so educators have turned to indirect methods. Advantages of indirect methods are the efficiency and technical data that is produced to help educators make decisions. As previously mentioned, positive behavior support is a school-wide system aimed at not only managing, but also improving student behavior. As educators try to accomplish this, educational leaders and
teachers will commonly refer to the indirect method of measuring behavior, the office discipline referral (ODR) document, to determine if a specific intervention is effective for a student or even if the PBS system as a whole is effective. However, before educators place too much value on the discipline referral process, they need to know whether the ODR is an adequate and valid tool for measuring success. A recent study regarding ODR’s may help educators feel more confident in the ODR tool. Forty students from five elementary schools in the Pacific Northwest were randomly selected for a quantitative study. All five elementary schools have had PBS implemented for at least ten years and use the office discipline referral as the primary means of recording behavior problems. Levels of measurement for this study were conducted using the Behavior Assessment Scale for Children (BASC-2), which is a norm referenced rating scale used to measure behavior. Researchers used three composite scales to measure against. The three scales are externalizing composite (used to measure disruptive behavior), internalizing composite (measure anxiety and depression), and adaptive composite (used to measure social skills). Results were reported using a T-score with a mean of 50 and a standard deviation of 10. Using bivariate correlations researchers found the strongest correlation between ODR’s and suspensions ($r = .76$). Likewise, BASC-2 and suspensions along with externalizing behavior had high rates of correlation ($r = .51$) (McIntosh, Campbell, Russell-Carter, & Zumbo, 2009). Results such as these indicate there is a very high and strong correlation between ODR’s and externalizing behavior, or those behaviors witnessed by teachers in the classroom. Conversely, in this same study, there was very little statistical data linking ODR’s with internalizing behavior such as anxiety or depression or even adaptive behavior or social skills. Educators can be confident if they are using the ODR system for managing student behavior, the ODR system is an adequate tool. However, keep in mind this study did use indirect observation methods and
although indirect measure do provide some insight into overall levels of behavior, they are less desirable than direct observation methods. Likewise, the sample size in this study, although 40 students, is significantly small as compared to the number of students in public schools across our country. Lastly, the school district in this study has been using ODR’s for ten years, which is a significant amount of time. Consequently, the system was implemented with fidelity and had many systems in place to ensure valid results. Many school districts, as they look at data, have to consider these aspects. A school-wide PBS system implemented to a lesser degree could potentially have significantly lower results. Therefore, a similar study was conducted using a much larger sample size.

In a study conducted by Pas, Bradshaw, & Mitchell (2011), 8,645 children in 335 classrooms across 21 elementary schools were selected to determine if ODR’s are a reliable source of student behavior. Pas et al. (2011) correlated the Teacher Observation of Classroom Adaptations-Checklist (TOCA-C) to student ODR’s. Researchers gathered data from the State Department of Education and selected a sample of students that closely represented the many different facets of student populations in public schools. Examples of such facets include male/female ratio, economically disadvantaged, and race. Data was compared using cross-tabulations, and kappa coefficients. Again much like the previous study, Pas et al (2011), showed strong statistical evidence ($r = .57$) that ODR’s are a reliable source of data for managing student behavior. It should be noted, however, this study also used multiple analysis procedures, and found ODR’s are not as reliable in measuring other sources of poor student behavior such as poor social skills and concentration problems. As we move forward in determining the effectiveness of school-wide PBS implementation, educators can rely on the ODR as a valid source of data. Likewise, ODR’s can be used as a screening tool to identify students who are in
need of further interventions and supports. However, the question remains, once a student is identified, does school-wide PBS positively affect behavior?

**Effects on Behavior**

Schools are being held more accountable for their efforts to improve student behavior despite reductions in school personnel and funding. Although student behavior is not a new concept in schools, in recent years there has been an outcry for more effective discipline procedures. Out of the outcry has come the positive behavior support model (PBS) for managing student discipline. The PBS approach is a proactive approach rather than the usual and customary reactive approach. Now that PBS has been around for many years, there is data from research, which will help educators determine whether PBS is a system that will work for their schools. However, not only is PBS being considered for reducing problem behavior, but the research is being analyzed to determine if PBS is a viable system for improving school climate, targeting specific behavior, and creating safer environments; all of which lead to successful schools (Bohanon, Goodman, & McIntosh, n.d.).

One such study conducted by Dunn-Sherrod, Getch, & Ziomek-Daigle (2009), investigated school-wide PBS interventions in a middle school. The study consisted of 468 students with 52% being African American, 31% White, and the other 17% multiracial. This study differs slightly from other studies in that while researchers studied the overall effectiveness of PBS in the middle school, a second group of five students with significant behavior risks where identified for participation in the study. The five students had additional PBS interventions implemented, and the study was conducted to determine whether interventions that are more intensive made a difference on at-risk students. Researchers gathered quantitative data using the
School Student Information System (SASI). In this two-year mixed method study, researchers found using the school-wide approach, discipline for inappropriate behavior reduced 66%. A specific area such as bus incidents reduced 53%, and specific behaviors such as physical aggression and insubordination reduced 40% and 43% respectively. The targeted group of five students experienced even larger percentages in decreased behavior (Dunn-Sherrod, Getch, & Ziomek-Daigle, 2009). One of the more significant aspects of PBS that educators seem to be attracted to is the student centered element and how specific interventions are determined based upon specific student needs. This targeted intervention approach identifies students as being in one of three tiers of interventions. Tier one students are low risks who respond to school-wide interventions. Tier-two students need additional support as ODR’s indicate the school-wide interventions are not sufficient. Finally, tier-three students are significant high-risk behavior students who are not responding to tier-one or tier-two interventions (Fairbanks, Sugai, Guardino, & Lathrop, 2007). Due to the targeted intervention approach, researchers expanded their studies on PBS effectiveness. The expanded studies included research targeted towards the effectiveness of specific interventions for specific behaviors, rather than the more traditional research approach on the overall effectiveness. Solomon, Klein, Hintze, Cressey, & Peller (2012) pieced together a meta-analysis of SWPBS and examined more specifically, effects of PBS in specific school environments and specific interventions. Solomon et al., (2012) collected data on single-case studies from 20 different research findings covering a span of 16 years. Of the 20 studies, six were from urban schools, five rural, and nine suburban. Thirteen schools were elementary, and the remaining schools were a mix of middle and high schools. Data were gathered and researchers used line and bar graphs to depict PBS effectiveness using XYit software. A Y-value was assigned to each data point and calibrated. The Allison-MT method of
calculation was used which accounts for both trend and mean differences between experimental phases. Most noteworthy is researchers finding a high statistical correlation between the effectiveness of interventions in unstructured areas of the school such as cafeterias, restrooms, and buses (.44, .63) as opposed to classrooms (.18, .36) which are very structured. This research demonstrates, when specific interventions target specific areas, PBS is very effective. This study also demonstrates for educators the more specific the target behavior and the more specific the intervention, the more likely PBS interventions will be successful ($r^2 = .40$, 95% CI [.27, .57]) (Solomon, Klein, Hintze, Cressey, & Peller, 2012).

Although schools have implemented many different interventions for students at the different tiers, some interventions are gaining in popularity over others. If researchers can feel confident a particular intervention already studied can produce desired results, educators are more likely to implement. In this effort, two separate studies Faribanks, Sugai, Guardino & Lathrop (2007) and Bohanon, Fenning, Carney, & Minnis-Kim, (2006), set out to accomplish this. Fairbanks et al., (2007) selected a tier-two intervention called check-in/check-out (CICO). Students from a suburban elementary school in the northwestern United States were identified based upon principal selection. In study one, a quasi-experimental design was used and time series data were collected on each student across five phases of the CICO program. The primary dependent variable for this study was percentage of intervals a student was engaged. Each classroom was observed two to four times per week and the observational tool used was a 10-s partial interval recording system for 40-minute intervals. Four of the ten students indicated responsiveness to the program. Randy’s mean average of poor behavior decreased from 32% to 20%, Farrell 28% to 18%, Helena 52% to 14% and Jade 33% to 6%. Four students who did not respond to the CICO tier-two intervention were provided with additional personal interventions
based upon their specific behavior concerns. After the added intervention, Marcellus’ behavior
decreased from 38% to 21%. Blair’s percentages decreased 40% to 17%, Ben 29% to 10%, and
Olivia 41% to 16% (Fairbanks et al., 2007).

In Bohanon et al., (2006) study, similar findings are evident. Important aspects of this
study include the population of students studied. Students were from a high school in the
Chicago Public School System and consisted of 1,800 people representing 75 different countries,
and 85% of the population is considered economically disadvantaged. This focus group contrasts
significantly from the Fairbanks et al., (2007) study and gives educational decision maker’s
confidence that PBS can be implemented in virtually any school setting. Other challenges the
Bohanon et al., (2006) study tackled were higher demand for required resources at the high
school level as well as different teaching strategies. Different teaching strategies are necessary
because of the maturity level of high school students as opposed to middle or elementary
students. Additionally, the independent nature of school faculty and students alike at the high
school level leave educators concerned about the effectiveness. However, Bohanon et al., (2006)
shows similar findings in their study when compared with the Fairbanks study. Quantitative
measures used the School-wide Evaluation Tool (SET) and the Effective Behavior Support
Survey (EBS). Qualitative measures included interviews, document reviews, and field notes.
Researchers used the Wilcoxon-Whitney test for independent sampling for gathering data related
to process and implementation. Results of this three-year study showed in year three, 20% of
referrals decreased for specific student behavior or 1.54/per day compared to 1.93/per day for the
school-wide interventions. Serious disobedience, a severe school wide behavior concern, when
targeted using PBS, decreased from 1.64 referrals per day to .05/per day. Overall referrals for
those students who received six or more ODR’s in year one, decreased 5% by year-three
EFFECTS OF POSITIVE BEHAVIOR SUPPORT SYSTEM

(Bohanon, Fenning, Carney, & Minnis-Kim, 2006). Educators at the high school level are encouraged by these results, as student behavior is not specific to elementary or middle schools.

There is no doubt student behavior remains a concern for educational leaders and if principals and staff can find ways to improve student behavior in schools, more time can be dedicated to teaching and learning. Additionally, from the scope of the above studies, PBS seems to provide solid statistical evidence that its implementation has positive effects on all grade levels and school cultures including inner city schools characterized by poverty, crime, and large segments of at risk students. More importantly other than reductions in discipline referrals, teachers reported other areas affected by PBS such as increased staff and student moral and increased teaching time. These two overarching areas were clearly identified in a 2006 study by Warren and Bohanon. This mixed method study included 737 students from a middle school in the inner city. Eighty percent of students were economically disadvantaged, and 41% were African-American, 35% Hispanic and 18% European-American. Other than looking at the effects of PBS on discipline referrals, researchers were interested in school culture related issues. Quantitative data from teacher surveys using a standard Likert scale method of scoring showed significant statistical improvements in school climate. Teachers were able to focus more on teaching, were distracted less during class time, and improved performance due to higher moral. These changes are attributed to lower discipline problems (Warren et al., 2006). However, despite PBS and its best efforts, academic achievement remains the primary focus for schools. Although behavior issues have been identified and educators look for ways to improve school culture through improved behavior, the primary goal of educators remains to increase student learning. PBS implementation may be a solution to not only improving student behavior, but also
it may be an avenue by which principals and staff can explore in their efforts to increase academic achievement.

**Academic Achievement and Time Saved**

Evidenced thus far in this study is how PBS is quickly becoming an effective school-wide system educators have at their disposal for use in their attempts to reduce incidents of problem behaviors. Evidence supporting PBS systems seems to stem from five main characteristics of PBS: (a) leadership teams who analyze and discuss data, (b) overriding school-wide philosophy, (c) specific behavior expectations in certain areas of the school, (d) individual classroom expectations, and (e) specific strategies for students who need extra levels of support. However, where evidence is lacking regarding PBS implementation is on overall PBS effects of student achievement. Researchers have studied a topic directly related to academic achievement, which is instructional days lost due to behavioral infractions (i.e., in-school suspension, and out-of-school suspensions). Research has shown that schools with higher attendance rates do in fact have higher student achievement rates (Curtis, VanHorne, Robertson, & Karvonen, 2010). Likewise when schools have changed attendance policies to encourage students to be in class more often and on time, studies show student achievement increases. In the same effort, Curtis et al., (2010) conducted a quantitative research study looking at instructional hours in Glenn C. Marlow Elementary school, located in western North Carolina. Student enrollment at the time of the study was 523 students. Researchers used 2003 school data as baseline data; this was the year before PBS implementation. After a four-year period, data was analyzed using general computing and statistical information. Results showed discipline referrals decreased by 47.8% after PBS implementation, extended time out of the classroom decreased by 1.7% and
instructional days lost decreased by 56.5%. Z-tests were also conducted to demonstrate how these dependent variables might look in a population of similar size schools with similar students. Curtis et al., (2010) concluded schools could expect about a 3%-8% decrease in out-of-school suspensions (OSS) and 6%-15% decrease in lost instructional days. Although these percentages are impressive, this research left many unanswered questions, as educators have a hard time determining how percentages calculate into real time. Principals want to know actual time lost due to teachers and administrators identifying and correcting poor behavior. Research has likewise revealed that constant interruptions to the teaching environment, by way of correcting poor behavior and re-teaching acceptable behavior, have severe adverse effects on student learning. Each time a teacher stops teaching, spends time off task, and starts engagement over again, it is a disruption to the classroom environment. Many students will have a difficult time concentrating and retaining information in this atmosphere, regardless if they have a learning disability or not (Muscott, Mann, & LeBrun, 2008).

Given this dilemma in public schools, Muscott et al., (2008) used a quantitative study to tie student achievement with time lost due to behavior concerns. This study included 28 schools consisting of elementary and middle schools from New Hampshire. Researchers gathered data using ODR’s. Once charts were created, researchers first determined after PBS implementation, ODR’s decreased by 21%-36% between year one and year two. The elementary schools had collectively 778 fewer referrals or 21%, and middle schools 2,635 or 36% fewer referrals. Likewise, in-school suspensions (ISS) were reduced collectively by 637 days or 31% and out-of-school suspensions were reduced by 395 days or 19%. Researchers used the New Hampshire Department of Educations’ estimates on lost instructional time due to behavior. ODR cost elementary students 45 minutes of instructional time, 10 minutes of teaching time, and 15
minutes of administrative time. At the middle school level, times were 45, 30, and 15 respectively. When researchers calculated data using benefit analysis methods, they found the elementary schools recovered 584 hours of instructional time, 130 hours for teaching, and 195 hours for administrative work. Regarding OSS and ISS, the elementary schools recovered 536 hours of learning or 89 days, 128 hours for teachers or 21 days, and 213 hours for administrators or 36 days. At the middle school level, results were even more significant. ISS and OSS time recovered was 3,244 hours or 541 days of instruction, 755 hours or 126 days of teaching, and 1,559 hours or 260 days recovered for administrators. Lastly, researchers identified two academic areas, reading and math, where students struggled most often. Using the New Hampshire state standardized assessment for elementary and middle school students, researchers found significant academic gains from year one to year two. Data revealed as much as a 75%-80% better chance of increasing test scores because of students increased instructional time due to less time spent on incidents of poor behavior. Additionally, data revealed as high as 33% of students increased test scores over the same two-year period.

In a very similar study, (Mass-Galloway, Panyan, Smith, & Wessendorg (2008), found that a 42% decrease in student discipline across a school district, equated to 53 hours of instructional time saved. Likewise, this same 42% meant an additional 27 hours of time administrators could work on curricular matters rather than on disciplining students. In particular, one middle school in this Iowa district recognized a 239-hour gain in teacher time and 119 hours of administrative time. Researchers noted however, intensive behavior support was implemented beyond the standard school-wide procedures (Mass-Galloway, Panyan, Smith, & Wessendorg, 2008).
In a separate study, results were similar in that they provided solid statistical evidence for the positive effects of PBS implementation on academic achievement. Math and reading scores were examined in the Lassen, Steele, & Sailor (2006) study when test scores were compared over a three-year period. Using the Kansas State Assessment for Reading and Math researchers compared test scores with the number of tickets handed out for good behavior. Six hundred and twenty three students comprised of 40% Hispanic, 26% African American, and 30% White, made up the focus group. The primary method of analysis was a one-way analysis of variance (ANOVA) for determining the number of tickets handed out. In addition, to determine if test scores increased during the implementation years, two separate ANOVA’s were conducted, once for math and one for reading. Researchers found with each year of implementation teachers handed out significantly more tickets (9.0, p < .01) and reading scores did not increase at the same rate (.88, p > .05). However, Lassen et al., (2006) found math scores did increase substantially (6.67, p < .01). Regarding specific disciplinary action and test scores, four separate regression analysis were conducted using singular linear regression rather than multiple regressions. The first two analysis indicated the number of ODR’s a student received significantly predicted scores on reading and math assessments such that the fewer the ODR’s, the higher the test scores. Similarly, the fewer the suspensions a student received, the higher the test scores (Lassen, Steele, & Sailor, 2006).

As noted earlier, this idea of PBS implementation affects such a broad range of educational issues within a school district. Many issues that educators face are equally as important to education as the academic issue. Take for example the nonacademic factor of emotional disorders, or physical disorders. Non-academic issues such as these have caused districts to increase the number and intensity of aversive disciplinary procedures. Schools have
enacted zero tolerance policies, create alternative educational settings, installed metal detectors, and suspended students out of school at alarming rates in hopes of improving the school culture (Lassen et al., 2006). It seems consequences such as these directly oppose positive behavior supports, but for some reason district leaders revert to these options before considering proactive approaches such as PBS. It could be lack of knowledge or even an unwillingness to take risks, so school boards and superintendents stick with what they know, despite the lack of research to support their conclusions. Perhaps, decisions such as these come because leaders do not see the peripheral aspect of PBS implementation. Certainly, staff morale, student and staff attendance, school safety issues, and teacher self-efficacy have to be affected when it comes to student discipline issues. Maybe if district decision makers see the overall effects of PBS implementation, and are able to better draw connections between non-academic factors to academic ones, our schools may be better equipped to experience change.

**Other Affected Areas**

Up to this point, much of this study has focused on the overall behavioral concerns facing schools and whether or not PBS can help address those concerns. However, ask any educator and they will tell you success of an intervention is not dependent on just one variable. If the success of PBS implementation in schools were based upon one aspect of school culture, student behavior, then most educators would agree the program is in need of improvement. Data indicates student behavior seems to improve under a PBS model, but data also exists that refutes this notion. Many times behavior does not improve to desired levels. Additionally, data reveals PBS does not affect all age groups equally or even all types of students. Therefore, further research has been conducted to identify other possible areas PBS implementation has affected.
Successful PBS implementation may very well include other measures of data in areas of student engagement, happiness, adult perceptions, and quality of life issues. Clarke, Worcester, Dunlap, Murray, & Bradley-Klug, (2002) conducted a study for exactly this purpose; using multiple measures across several dimensions of a student’s academic success. In this mixed-method single subject case study, Clarke et al., (2002) focused in on a 12-year old student named Mindy who attended a public junior high school. Direct and indirect measures of data were obtained using a 10-s continuous interval system and surveys using the Likert scale for scoring. Although problem behavior decreased from 44% to 11% after PBS implementation, behavior was not the focus of the study. Data indicated Mindy’s time on task and cognitive engagement increased from 60% to 95% after the intervention. Mindy’s transition time between tasks averaged 5min 17s before PBS implementation. After strategies were introduced into Mindy’s routine, transition time dropped to 3min 10s. Happiness, another dimension measured, was displayed by Mindy 42% of the time as opposed to 26% of the time prior to PBS. Days that would be classified as positive, increased from 62% of the time to 100%. Conversely, negative teacher interactions decreased from 46% to 7% (Clarke, Worcester, Dunlap, Murray, & Bradley-Klug, 2002).

Whereas the Clarke et al., (2002) study was a single case study, two other studies focused on the school-wide climate among students. The importance of looking at the school climate is because rather than focusing on a specific group of students, such as those who need more intensive interventions, whole school data includes all students. Likewise, school climate has been recognized by education literature as an essential part of school effectiveness. The whole school climate could possibly even affect teacher productivity (Caldarella, Shatzer, Gray, Young, & Young, 2011). Once educators begin realizing the broader picture of PBS, they may be able to shift entire school cultures. This was the focus with the Ross & Horner, 2007 study. A portion of
this study used the Index of Teaching Stress (ITS) and the Teacher Efficacy Scale (TES) surveys to measure both stress and efficacy among the staff. Interestingly PBS seemed to have very strong and significant effects on teacher efficacy $F(1, 18) = 7.34, p < .05$ and almost no significant effect on teaching stress $F(1, 18) = .86, p = .36$. To follow up with the minimal effect on stress, researchers conducted a power analysis to determine the strength of the study. Data revealed low statistical power ($1-B = .14$), which indicates the lack of statistical data may be due to a low participation of teachers in the study. Ross and Horner used five teachers who were randomly selected from four different schools within one district (Ross & Horner, 2007). It may be apparent, however, from this study that regardless of PBS implementation, today’s teachers perceive the demands placed upon them and the resources to meet these demands as a terrible imbalance. Certainly, PBS is a resource that can help balance the perception, but so much more is at stake in today’s public schools than student behavior, and teacher efficacy is one of those other elements. A teacher’s efficacy or confidence in themselves and in their abilities to affect change, and affect student learning, seems to have a direct positive relationship with a system like PBS. Caldarella et al., (2011) found similar results in their study indicating a response rating of 74%-81% of teachers recognized significant positive change in school climate among students once PBS implementation was introduced. In this longitudinal experimental design lasting four years, qualitative data was gathered using Supplemental Questionnaire (PBS-SQ) and the Indicators of School Quality (ISQ). Effect sizes where then calculated using Cohen’s $d$, comparing first year data with final year data. Notable increases regarding school climate were categorized into three factors; student behavior, the school’s ability to communicate with key stakeholders, and the ability of the school to assist all students. Linear positive trends were charted in all three of these categories, which opened up a completely new perspective on
school-wide PBS. In addition, it is important to note that these same categories were charted in a control group for this study where no PBS implementation was conducted and there was not any significant increase in any one area. More importantly, over the four years of the study, the control group worsened in their ability to communicate with stakeholders, and reaching all students (Caldarella et al., 2011).

One last study used an AB design in which one school (target school) was compared to another school (control group). Again, student behavior was assessed, but more importantly, school climate and best practices data were included. Data were collected over two years and consisted of ODR’s, good new referrals, student and staff surveys, and tiger ticket tallies. Tiger tickets were distributed to students exemplifying good behavior. Data was analyzed using ITSACORR which compares two series of data to determine if there is a significant change in slope and intercept in two different phases; year one and year two. F-Tests were created to chart change in intercept and slope, and t-tests created to chart significance of change. Data indicated that with increased good news referrals and tiger ticket distribution came a significant statistical positive improvement in student behavior. In the control group, there was not any statistical difference. Focusing on school culture, (Metzler, Biglan, Rusby, & Sprague, 2001) reported 59% of students felt safe at school prior to implementation in the focus school and 75% after implementation. Likewise, 79% of staff agreed the school was safer, and 89% believed student behavior had significantly improved, and 100% believed positive rewards like tiger tickets was the cause for the improvement. The corresponding effect on students for Lincoln Middle School (focus group) was improved student attendance, and increased percentages of student’s proficient on standardized assessments (Metzler et al., 2001). It is important to note however, in this study, during the course of intervention implementation a number of interventions were put into place.
Metzler et al., (2002) was not able to examine the independent effects of each of the interventions, but rather looked at the process of PBS as a whole in regards to the school-wide approach. With this limitation, new light is shed on PBS. It may be that PBS is more effective when its focus is on a school-wide level and regarded as an agent for changing the social environment of a group of students rather than focusing primarily on affecting individual students. However, determination cannot be made until the individual needs of students are explored including different groups of students.

**Different Groups of Students and Schools**

Managing disruptive and aggressive behavior is reported to be the most challenging aspect of teaching according to teachers and administrators (Christensen, Young, & Marchant, 2004). In conjunction with this challenge is that most teachers feel inadequately trained to deal with students who exhibit aggressive behavior. To further complicate matters, students who exhibit aggressive or disruptive behavior, often referred to as “at-risk” students, make up a portion of most classrooms in our public schools. With the passing of IDEA 2007 and the inclusion principle, students of all learning abilities and disabilities have a right to be in their least restrictive environment and with their peers. This means at-risk students have the right to be in the general education classroom. Teachers are left scrambling for intervention strategies that are effective, feasible, and efficient. The answer may be in two approaches already inside most schools; functional behavior assessments (FBA) and positive behavior support (PBS).

Christensen, Young, & Marchant, (2004) conducted a study integrating both FBA and PBS and sought to determine if rather than working independently of each other, if they work in connection with one another will at risk students respond with socially acceptable classroom
behavior. Researchers used both qualitative and quantitative data to record results through social comparison studies using normative sampling and subjective comparison studies. Christensen et al., (2004) identified 42 students classified as at-risk from a student body of 573 in an elementary school. Two specific students, Eduardo and Justin were selected for this study based upon a number of qualifying characteristics. Two additional students, Melissa and Karen were selected based upon criteria to be peer partners for Eduardo and Justin during class time. Lastly, a control group of students was selected who were deemed average third grade peers of Eduardo and Justin. One particular hour was selected for researchers to observe both Eduardo and Justin, and was the hour they both exhibited the most problem behaviors. As a result of FBA’s being conducted on both students, specific PBS interventions were put into place. Interview, observations, and surveys were used to determine baseline data. Likewise, the same methods were used for determining baseline data for the control group. Observations of the students took place during the class using the whole interval recording method, with the interval being every ten seconds. An interval was marked for socially appropriate classroom behavior if the student was engaged in acceptable behavior for the entire ten seconds. At the end of the observation, data were summarized and a percentage used to indicate the amount of time each student displayed appropriate behavior. This study used ABABA experimental design where a baseline of appropriate behavior was noted, data collected after PBS implementation, and then baseline data recorded, and finally further implementation. The control group had a baseline of 77% of time acceptable behavior was observed. Eduardo began the study with a mean of 58% or 19% below average. After PBS implementation Eduardo ranged from 37% to 97% throughout the study and 94% of his intervals were above that of his peers. Justin, likewise, showed significant improvement starting at 47% mean average and ending the study at 75%, which is only 2%
below his peers, but a 28% increase in improvement. Certainly, the use of peers to help mediate interventions for students is worthy of further exploration based upon this study. Additionally, identifying at-risk students and identifying specific interventions to meet specific needs is a vital component of PBS allowing educators to use this approach in a variety of ways.

However, while all schools have a diverse makeup of students, some schools seem to be witnessing serious increases in disruptive behavior at a faster pace than other schools. Despite there being 1.3 to 3.8 million children in the United States who have some sort of conduct disorder, and 3% to 11% more children who have disruptive behavior disorders, some schools are at higher risks of failure than others (McCurdy & Mannella, 2003). Many of the schools who fall into this at-risk category are plagued by family risk factors, poverty, single parent homes, high crime areas, and other contributing societal factors. However, children in these areas not only need help, and guidance, they need it more intensively. Educators in these communities face greater challenges than others face and need to know with all of the evidence regarding PBS, if such a system works in their situation, given their set of circumstances. Circumstances such as these are what make the McCurdy & Mannella, (2003) study unique from all other studies. The contribution this study offers is that the school chosen was a culturally diverse elementary school within a large urban community. Problem behaviors were drastically increasing, parental, community support was at all-time lows, and leaders were left without answers. In this particular elementary school, researchers looked at the most common problem behavior; assaults/fighting. Of the 500 students, over 80% are economically disadvantaged, 44% are Asian/Pacific Islander, 33% are African American and 18% European Americans. Regarding ODR’s researchers used Kruskal-Wallis test to examine the ODR data and determined mean averages. According to the School-wide evaluation Tool, (SET) PBS implementation was at 82%, above the acceptable goal
of 80%. Over a two-year period, the behavior fighting/assaults showed a 55% reduction. More specifically, fights in the classroom and schoolyard reduced by 37% and 53% respectively.

Researchers then used the Mann-Whitney U-test of comparison to determine if there was immediate success after PBS implementation between years one and two of the study. Data revealed significant decreases in problem behavior between years one and three, but even higher statistical significance between year one and year two. Staff satisfaction surveys also indicated an average mean score of 3.03 to 4.57 depicting staff being optimistic about further implementation of PBS and the positive effects it has had on this particular school (McCurdy & Mannella, 2003).

As mentioned earlier, discipline problems are not foreign to any school. Often times what teachers may classify as a behavior problem may actually stem from aversive interactions between the problem student and the teacher. After a series of these interactions, teachers become disapproving of students, and students become disapproving of teachers. Regardless of the means by which educators find themselves in this dilemma, both students and educators must be willing to change their contribution to the school environment. However, there are barriers when an entire paradigm needs shifting and the answer to how can schools accomplish this may be surprising as is the case in a Polirstok & Greer, (1977) study. In this study, researchers determined that training teachers how to handle students who are disapproving of them, is costly and time consuming, so Polirstok and Greer, started with the students. A quantitative study was conducted using a single 8th grade student who was regarded as a behavioral problem. Researchers sought to determine if it is possible to train a problem student to reinforce teacher behavior. Researchers hypothesized this approach would lead to positive
teacher behavior, thus eliminating undesirable disapprovals of teachers by students and increased teacher approvals of students.

Data was collected using blind observational methods in which both teachers and students were not aware of the study. Data was gathered on verbal and nonverbal approval and disapproval of each other over a four-month period in 80, 20-minute sessions. Behaviors occurred where recorded using the Madsen and Madsen observation method of recording data. This multi-faceted baseline study consisted of the ABABA format in which baseline was established and interventions implemented on two occasions with data being recorded after each installation of an intervention. After the student was trained in proper behavior and verbal/non-verbal approval of teachers, researchers began the observations. Four of the student’s teachers were selected and the student immediately began increasing the number of approvals for each teacher. Likewise, the student reduced the number of disapproving verbal and non-verbal cues for each teacher. Researchers watched as the number of disapprovals by the teacher towards the student decreased and the number of approving remarks and non-verbal cues increased (Polirstok & Greer, 1977). Two aspects of this study stand out. One, students who lack appropriate classroom behavior may need to acquire socially acceptable skills, and the acquisition of these skills needs to be taught, quite possibly, in school. Two, students may be a source educators can turn to in helping reshape the school environment as teachers seemed to be influenced by student behavior in the study by Polirstok & Greer (1977). Although to say implementation is successful each time a district chooses to make PBS a part of the school culture would be remise. If educators are going to be responsible for improving school climate, they need to be aware of potential barriers to PBS implementation.
Barriers to Implementation

Over 5,300 hundred schools across the United States have implemented PBS with at least 80% efficiency which is the system standard to be considered implemented. However, only 11% of those schools are high schools, which research seems to indicate is the greatest challenge regarding PBS implementation. The key features of PBS are similar across all schools so questions are raised as to why such a low percentage of participating schools are high schools and do high schools face bigger challenges not inherent in elementary and middle schools. For this reason, Flannery, Sugai, & Anderson (2009) conducted a study for identifying specific barriers to implementing PBS at the high school level. Participants for this study included PBS teams in which school wide PBS was implemented. Researchers distributed surveys in one of two ways. First, state contacts were asked to distribute the surveys via emails to all leadership teams of participating high schools. Second, PBS staff distributed surveys during training sessions. Forty-three surveys were returned representing 12 different states. Sixty eight percent of respondents had implemented PBS for three years or less, and 55% had two years or less of implementation. High school enrollment ranged from 55 to 2,900 students. Researchers used the Survey of Positive Behavior Support Implementation as the instrument for data collection. The survey took about 20 minutes, and covered five specific areas. In addition to providing data, open-ended questions were used to gather additional information regarding perceptions of implementation. Results from this qualitative study indicated three top areas of priority. The first of these priorities was, gaining and maintaining support from staff. Thirty percent of respondents reported 76% of staff or more supported PBS and only 26% reported 76% commitment. These results are troubling since PBS proponents argue there needs to be an 80% commitment level from staff to be successful. The next priority was 75% of schools indicated they need time and a
plan to review data in order to make decisions. Most of the high schools do not have either the
time or a plan because of the dynamics of a school day within a high school. Lastly, 53% of
respondents indicate there needs to be a school-wide discipline system in place for all staff to
follow (Flannery et al., 2009). Again, because of the number of teachers, different departments,
and complexity of the high school climate, not all teachers are sharing the same vision.
Additionally, other specific challenges inherent to high schools, which may not exist in
elementary or middle schools are multiple administrators, complex scheduling patterns, and
extra-curricular activities. These are just a few examples of how high schools face different
challenges when implementing PBS.

School leaders continue to battle the current state of education within their buildings and
take on new challenges each day. PBS implementation is just one possible avenue educators can
explore. Although efforts are continuing in regards to the overall success PBS has on a school
building, early efforts seem to be encouraging based on the above detailed analysis of research
data. PBS may be a viable option for some schools as all educators continue to respond to
demands to improve school climate and the structure of discipline systems (Frey, Lingo, &
Nelson, 2008).
Chapter III – Results and Analysis Relative to Problem

Teaching students in the 21st Century looks a lot different than it once did. Although teachers and administrators have always been concerned about safe, secure, and orderly schools, never has it been as challenging to create these environments until now. In conjunction with this dilemma are new mandates holding schools more accountable for their efforts in increasing student achievement. Conflict is created in our schools between student behavior and academic achievement. Left in the middle of the conflict is educators who are looking for ways to improve both, student behavior and academic success. Behavior theories have been studied, tested, and modified as researchers and educators try to come up with solutions. However, there seems to be one particular system that has the potential to positively effect a number of areas in our school culture that could help educators improve both student behavior and academic achievement. This system is, Positive Behavior Support (PBS).

Effecting All Students

PBS is a school-wide behavioral support system that has the potential to be implemented across an entire school, affecting all students, or to be implemented with a smaller group of students or even an individual. Through its multi-tiered approach, PBS allows educators to identify students as low-risk, moderate-risk, or high-risk behavioral concerns. Interventions to improve inappropriate behavior will be put into place by educators depending on the tier a student or group of students is placed. This approach is what has educators paying attention. Thus far, research seems to support the notion that, PBS produces desired results regardless of age group, socioeconomic status, or class size. Warren and Bohanon, (2006) studied 737 students whereas Bohanon, Fenning et al., (2006) studied over 1,800 students. Even more intriguing than
the drastic reduction in student discipline problems in both studies, is the age difference between
the two studies. Bohanon, Fenning et al., (2006) studied PBS effects on high school students as
opposed to middle school students in the former study.

In addition to the flexibility of PBS, educators are interested in how PBS groups students
by behavior level. This allows teachers to implement more intense support strategies for those
students identified as more severe behavioral issues (Solomon et al., 2012). A student centered
behavior approach, which looks at the student, their specific behavior, and underlying causes,
leaves principals and teachers addressing the real issues of behavior. In turn, the number of
unwanted disruptions, behavior incidents, and negative teacher/student interactions are leaving
teachers with more time to teach, a better environment to learn, and more positive experiences
for students who may otherwise be deemed at risk or behavior concerns (Mass-Galloway et al.,
2008). Additionally, based upon data gathered from studies, there are clear connections between
early-diagnosed behavioral concerns among students and later poor academic performance
(Fleming et al., 2005). With this evidence, educators can look to student behavior and reasonably
predict who might be at risk for academic failure. Educators can begin early intervention with
these students.

Data provides very strong evidence supporting PBS effectiveness for all students
including those that are considered at risk, and data provides even stronger evidence that PBS
works with smaller groups of students or even individuals (Dunn-Sherrod et al., 2009) & (Clarke
et al., 2002). However, research data indicates PBS does not come without limitations. When
considering all the evidence and trends in the data, school-wide efforts reduce the overall number
of discipline referrals, which is the desired goal; however, on many occasions most of the
improvements come from the unstructured areas within the school. Overall disruptions and
disrespectfulness in the classroom increased in one study although overall school-wide discipline decreased (Dunn-Sherrod et al., 2009). In a separate study, PBS implementation reduced overall student discipline significantly as much as 66%, however when researchers analyzed specific areas within the school, researchers found the unstructured areas such as playgrounds, restrooms, and cafeterias were affected more significantly than in structured areas such as in the classroom (Solomon et al., 2012). Whether these findings suggest an area of weakness in the PBS system, or whether this data suggests it is the unstructured areas that principals need to be more aware of within their buildings, is not certain. However, what is certain from the data is when considering a school-wide system for improving behavior, PBS is effective. However, in answering the first questions this study set out to answer, data indicates it is even more effective when it focuses on smaller groups or even individuals, especially those who have been identified as at risk or significant behavior problems. Data reveals this in many ways including reduced behavioral incidents, increases in student achievement, and higher motivational levels in these students (Caldarella et al., 2011; Caldarella et al., 2011).

Not Just Academics

Although the focus in most schools is on student achievement, a common mistake by many school leaders is not considering other avenues by which student achievement is affected. For example, educational literature and research has documented the effects of school safety, student involvement, and attendance on overall academic success and even more specifically, school climate. School climate affects teacher and student productivity, performance, and communication (Caldarella et al., 2011). When looking at data regarding PBS, several findings
EFFECTS OF POSITIVE BEHAVIOR SUPPORT SYSTEM

stand out from the rest, which may explain its widespread acceptance within schools across our country.

Whereas PBS is primarily implemented to reduce problem behavior incidents in schools, data shows what school principals would consider the most important residual effect; time saved. Repeated studies ranging in time from two-years to four-years and including elementary age students through high school aged students reveal staggering results. As much as 584 hours of learning time was recovered in one study due to the reduction in disruptions in class. The recovered learning time translated into 195 hours of administrative work recovered. The hours can be converted to days and data showed as much as 104 days of lost teaching time and administrative work were recovered (Muscott et al., 2008). Teachers and administrators can begin using the time in more educationally valuable ways. Obviously, for teachers this begins with implementing more effective research based teaching strategies, and focusing more on learning and the individual needs of students. For administration, recovered time means more time in the classrooms, observing, and analyzing school data. In turn, strengths and weaknesses within the school can be identified and strategies implemented to focus on school improvement goals. When time is spent on educational matters, educators begin to change major instructional areas such as school climate, quality of life matters, and overall beliefs; the corresponding result is academic success for all students.

However, students are only a portion of the school climate. Principals, although encouraged by early results of PBS implementation regarding effects on students, are also interested in PBS effects of other stakeholders. Researchers who focused on other aspects of PBS implementation found several revealing characteristics. The Ross and Horner (2007) study showed how the school-wide implementation of PBS did not have any significant effect on
teacher stress, but did have a major effect on teacher efficacy. Teacher efficacy is how teachers feel about their teaching and whether or not they feel their teaching can make a difference in the lives of students. If providing PBS as a tool to help teachers manage student behavior increases their perceived value as a teacher, administrators may want to look at PBS simply for this reason. Teachers who feel they have the skills to be successful are only part of the solution. The other part of the solution is providing teachers the tools to put their skills to use. PBS may be one way administrators can do this. Furthermore, researchers have identified a host of other avenues by which overall student success can be achieved. Student perceptions about school safety, and students who are happier when in school are two others areas affecting achievement. Reading scores increased in one study over a four-year period of time when students exhibited positive interactions with adults and felt happier about their school and themselves while in school (Horner et al., 2009). The significance of this study was the four-year length of time and the number of schools chosen. Thirty schools from two different states were chosen as data was collected from thousands of students. Conversely, when one student was studied for two-years, researchers found when her level of happiness increased, her engagement increased, positive teacher interactions increased, and both transition time and problem behavior decreased. The result was that a single student’s academic achievement began rising, and she was becoming more successful (Clarke et al., 2002).

What researchers began realizing once it was determined how areas such as school climate, student happiness, and student beliefs affect academic achievement was that students might be a great resource to help shape other areas our schools. In the Polirstok & Greer (1977) study it was determined that students could be used to influence teachers. Many times as adults and as educational leaders we focus so much attention on how do the adults influence the
students; we underestimate the value of our students. Data indicates when a student is properly trained in how to acquire and display socially acceptable behavior, they can influence their environment. The extent of their influence goes beyond peers, and includes teachers. In the Polirstik & Greer study, one student began increasing the number of verbal and non-verbal approvals of her teacher. The teacher responded with a decrease in verbal disapprovals of the student and eventually increased in the number of overall approvals of the student both verbally and non-verbally.

Lastly, although supporters of PBS will argue how multi-faceted the system is, it remains a fact that achievement for all educators is still the focus. Whether occurrences of negative behavior were contrasted against student achievement or school climate and safety issues were measured against academic achievement, the results remained the same. Reading and math scores both increased when ODR’s decreased in the Lassen, Steele & Sailor (2006) study. However, it was not a decrease in discipline that seemed to increase test scores in the Caldarella et al., (2011) study but rather increases in teacher motivation and student perceptions regarding school climate. Certainly, PBS implementation was the overall causal factor, which led to encouraged teachers and more energetic students, but nonetheless student achievement increased as a result (Polirstok & Greer, 1977; Caldarella et al., 2011).

Clearly, research reveals the widespread effect PBS has on many other areas that make up a school’s culture. Whether positive behavior support and reducing problem behavior incidents directly effects academic achievement or indirectly through other means, in either case achievement increases. Certainly as in the Ross & Horner (2007) study, some areas remain unaffected by PBS implementation. It is also possible that certain behavior is not affected by PBS such as in the Dunn-Sherrod et al., (2009) study when researchers found classroom
disruptions and disrespectfulness to increase during school-wide implementation. However, data seems to indicate occurrences such as these only gives researchers reason to further study PBS effectiveness and does not discredit the program.

Summary

While PBS implementation is still in the early stages of development, it is being implemented in more schools across the country with each passing year. The program seems to have widespread effectiveness within our schools. Students as well as teachers and administrators are seeing benefits from such a behavior system. Success for all stakeholders is being realized both directly and indirectly. The versatility of PBS implementation has educators eager to implement or at the very least continue exploring its many possibilities. Whatever the case, students benefit from it and schools can be confident they are serving the best interest of their students.
Chapter IV Conclusion

Recommendation

Public schools in the United States are made up of all types of students who reflect hundreds if not thousands of traits, religions, races, cultures, learning abilities, disabilities, living conditions, and personal characteristics. However, educators in the United States depict a much smaller makeup of people. Yet, educators have to find ways to build relationships and communicate effectively with all students and the more diverse the relationship, the more difficult it is to teach them. For this reason, educators and policy makers have helped school administrators by launching initiatives such as the Interstate School Leaders Licensure Consortium (ISLLC). The ISLLC developed standards, dispositions, and performance indicators, which all highly effective educational leaders should possess and follow, which center around the idea of student learning (Interstate School Leaders Licensure Consortium [ISLLC], 1996). However, the ISLLC is not the final authority, as educators face a multitude of other reasons teaching such diverse populations of students is so difficult. For example, fewer personnel, larger class sizes, dated technology and textbooks, and increased responsibility on teachers, are just a few. Regardless of where we teach and whom we teach, educators face these issues. Therefore, to support educators in their goal to reach all students and increase student learning, it is imperative teachers and administrators seek researched based, data driven ways to accomplish their mission. For those tackling the issue of classroom management or student behavior, it is advisable to seek proactive methods such as positive behavior support.
Areas for Further Research

To further answer my research questions in a more in-depth fashion I would like to see data on continual research on this topic. Despite well documented success on PBS implementation (Curtis et al., 2010; Mass-Galloway et al., 2008; Muscott et al., 2008; Lassen et al., 2006; Caldarella et al., 2011; Ross & Horner, 2007; Metzler et al., 2001; Christensen et al., 2004;(McCurdy & Mannella, 2003), there are still some issues that warrant further research. First, although there is a growing acceptance of PBS in public schools across our country, a majority of research has been conducted within elementary and middle schools. Very little evidence supporting high school level PBS implementation exists. Additionally, evidence seems to be stronger when studies are conducted over a longer period. In this review, a common theme of longitudinal studies emerged; giving evidence PBS implementation is a process that takes time to become fully implemented. Only over the course of time does it seem the full potential of PBS is recognizable and appreciated.

Secondly, in one particular study (Clarke et al., 2002) a single student was studied regarding her time on task, transition time, happiness, and percentage of positive days once PBS interventions were applied to her. Data revealed extremely significant positive results. In an effort to verify these results, further research should be conducted to determine if similar results could be duplicated. Although, data has shown positive results on a school-wide level as well, it may be PBS implementation would have a greater effect when implemented on more of a personal level with individual students identified as needing additional support.

Next, PBS research relies heavily on administrator and teacher implementation. Little research seems to have been gathered regarding what student outcomes are when schools start involving school counselors, nurses, social workers, and psychiatrists. If the results demonstrated
in this review, are primarily the work of administration and teachers, I would like to see how student achievement and school climate are affected when these other individuals are involved in the process. Schools are seeking ways to increase communication and interaction between different groups of stakeholders and PBS implementation may be one way to accomplish such a task. Any school educator would say actively involving these other individuals as a team, focused on improving school-wide student achievement or even on a specific group of students would be in the students’ best interest; however, there is not researched based data at this point to support this notion.

Lastly, although this review included academic outcomes for students because of PBS implementation, the data is limited. Further attention should be given to improvements in student learning. Almost all studies related to PBS outcomes focus primarily on behavioral issues. For example, reductions in school suspensions, office discipline referrals, or time spent on managing behavior, are all elements of behavior examined. Consequently, it would be reasonable to conclude that with such reductions in student behavior, more time would be given to instruction and learning, leading to a better school environment resulting in increased academic achievement. However, if more data was available directly linking PBS efforts with student achievement, school administration may be quicker to implement such an intervention. Likewise, in schools that show a greater need for support, such data gained through continual research may justify increased spending to help struggling schools.

Conclusion

Managing student behavior is among the most daunting of tasks for public school teachers in the 21st Century. Certainly at the forefront of education is student learning, but how
do students learn in environments that seem to be deteriorating within our schools? In some cases, these environments are deteriorating at a faster pace. Not only do educators have to face this dilemma, but educators also face new evaluation laws, which measure student achievement. In the coming years, as much as 50% of an educator’s evaluation will consist of student progress towards learning. Teachers face these issues daily and are asking administration for help. Meanwhile, educational administration is searching for the best possible solutions to this battle of improving school environments, because of poor student behavior, and measuring student achievement.

The very best approach to solving this problem is still eluding educators. However, research data regarding positive behavior support is growing and data certainly seems to indicate PBS is a reliable, authentic, and valuable option for most school settings. Data is making PBS a legitimate strategy for promoting student achievement and improving school cultures. Although barriers to this approach do exist, and in some circumstances PBS did not seem to produce desired results, for most educators PBS may be a strong option. Regardless, this review demonstrates that PBS is an effective alternative to aversive punishment practices educators have been using for years. Not only are educators in compliance with new IDEA guidelines if they choose a PBS approach, but they are more likely to experience classrooms and hallways, which are safer and supportive of students who are achieving at higher levels. Continual exposure to PBS will undoubtedly cause more schools to seek actively this option as they look to improve school environments that are conducive to learning and student achievement.
References


Christensen, L., Young, K. R., & Marchant, M. (2004, August). The effects of a peer-mediated positive behavior support program on socially appropriate classroom behavior. *Education*


http://voyill.nmu.edu/Ares/ares.dll?SessionID=N1242378212C&Action=10&Form=50&Value=3865


http://dx.doi.org/10.1901/jaba.1977.10-707


http://dx.doi.org/10.1007/s10648-006-9008-1