School-wide positive behavior supports: an evaluation of an elementary school program

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SCHOOL-WIDE POSITIVE BEHAVIOR SUPPORTS: AN EVALUATION OF AN ELEMENTARY SCHOOL PROGRAM

An Abstract of a Thesis
Submitted
in Partial Fulfillment
of the Requirements for the Degree
Educational Specialist

Lisa Andreasen
University of Northern Iowa
December, 2006
ABSTRACT

The outcomes of a school-wide positive behavior support program at a rural elementary school were evaluated to determine the effects of a school-wide program on the behavior of students. A program evaluation was conducted using student office referrals that were collected over a six year period. The results indicated that student office referrals significantly decreased from Year 1 to Year 6 and that specific behaviors of aggression and inappropriate language also decreased significantly from Year 1 to Year 6. Data were investigated to indicate trends in total office referrals by gender, grade, month, location, and problem behavior.
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A Thesis

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of the Requirements for the Degree

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Lisa Andreasen

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Entitled: School-Wide Positive Behavior Supports: An Evaluation of an Elementary School Program

has been approved as meeting the thesis requirement for the Degree of Specialist in Education, School Psychology

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REVIEW OF THE LITERATURE

One of the major concerns of educators, parents, and the community over the past few decades has been the continued increase of discipline-related problems in our public schools (Lewis, Sugai, & Covin, 1998; Sugai, 1996). There has been an increase in demands for safer schools by families, schools, and communities as school violence, bullying, and student victimization continue to increase (Sugai et al., 1999; Sugai & Horner, 2002). As violence, aggression, non-compliance with adults, defiant behaviors, and other antisocial behaviors continue to increase in public schools (Lewis et al. 1998; Sugai, 1996) the question that must be asked is “What needs to be done to address this issue?” This paper seeks to answer that question by investigating the effectiveness of a behavior program at an elementary school and explaining how one school has chosen to address the problem behavior of its students.

In the past, the answer to most discipline problems was punishment. Discipline was associated with zero tolerance, and it led to behavior issues being dealt with in severe ways to make an example for others who may have future behavior problems (Bear Cavalier, & Manning, M.A., 2002; Skiba & Peterson, 2003). There is a continued emphasis in public schools on responding to violent, aggressive, and non-compliant behaviors, rather than preventing them through promoting the social and emotional development of students (Bear et al., 2002). This reactive focus has led to an increase of severe punishments such as suspension, expulsion, and other forms of school exclusion (Bear et al., 2002; Skiba & Peterson, 2003).
School exclusion and other forms of reactive punishment may have some short-term effectiveness for reducing unacceptable behaviors, but research shows that over longer periods of time these measures are ineffective and may lead to an increase of problematic behaviors (Lewis et al., 1998; Vincent, Horner, & Sugai, 2002). School exclusion is also associated with higher dropout rates, increases in repeat offenders, and student and teacher perceptions of poor school climate (Lewis et al., 1998; Skiba & Peterson, 2003). These reactive forms of punishment also fail to address underlying factors that may be contributing to the behavior and do not teach alternative appropriate behaviors for the situation (Bear et al., 2002). Reactive and consequence-based responses to problematic behavior do not aid in the creation of positive school climates that prevent future problematic behaviors. Because of their short-term effects, they can only give us a false sense of security (Sugai & Horner, 2002).

**School-Wide Positive Behavior Support**

Positive behavior support (PBS) is a range of strategies that focus on developing important social competencies and learning outcomes while also preventing problem behavior (Turnbull et al., 2002). On a school-wide or system level, PBS can be defined as the establishment of behavioral guidelines and preventative supports for all students and faculty in a school or system setting. School-wide PBS seeks to develop a positive school climate that builds positive and appropriate behaviors, promotes learning, seeks to prevent inappropriate and problematic behaviors, and utilizes collaborative databased decision-making (George Harrower, & Knoster, 2003). A school-wide approach to behavioral intervention goes beyond dealing with individual behavior by providing
behavioral strategies, practices, and processes for all students (Sugai & Horner, 2002). A school-wide approach to PBS can effectively reduce persistent problematic behavior, promote acceptable behavior that fosters academic achievement, and identify and develop strategies to meet the need of students with the most challenging behaviors (Newcomer, Lewis, & Powers, 2002).

Factors contributing to the development of problematic behaviors come from all areas of a student’s life including home, school and community (Lewis-Palmer, Flannery, Sugai, & Eber, 2002). The goal of a proactive school-wide system of PBS is to counter these factors by teaching and reinforcing expected and appropriate behaviors to educate all students, both with and without challenging behaviors. School-wide PBS cannot be seen as an isolated curriculum or program, but rather as an integrated system of behavioral supports that seeks to promote effective interventions in school, family, and community systems. School-wide PBS is focused on developing a positive school climate by decreasing problem behaviors and increasing and maintaining appropriate behaviors (Newcomer et al., 2002).

Elements of School-Wide PBS

There are common elements that are seen in effective school-wide PBS systems. The elements most often discussed in school-wide PBS literature are based on a model developed by George Sugai and his colleagues (Lewis et al, 1998, Sugai et al, 2002, Sugai & Horner, 2002). While these elements may function differently in each school, they are recommended as essential components of the school-wide PBS system. The
following section will briefly discuss the seven key elements of effective school-wide PBS systems that are discussed in the literature.

**PBS Continuum**

Problem behaviors in schools range from very mild to chronic and persistent behaviors that are severely disruptive to the classroom and school environment (Newcomer et al., 2002). Effective models of school-wide PBS emphasize that support must be provided across a continuum to meet the needs of this array of intensities in each school (Newcomer et al., 2002; Sugai 1996; Sugai et al., 1999; Sugai & Horner, 2002; Turnbull et al., 2002). Support should be provided on a continuum of universal support, secondary support, and individual support (George et al., 2003; Turnbull et al., 2002). See Figure 1 for a diagram of these levels of support. All levels of the continuum are focused on displaying and teaching appropriate behaviors, providing opportunities for practicing appropriate behaviors, and developing appropriate environments that promote success (Newcomer et al., 2002). The following sections will briefly define universal support, secondary support and individual support.

**Universal support.** Universal supports are strategies that teach and encourage appropriate behaviors for all students. Approximately 80% of all students will respond favorably to universal supports (George et al., 2003; Newcomer et al., 2002; Sugai & Horner, 2002; Turnbull et al., 2002; Vincent et al., 2002). Focus is aimed at the prevention of problem behaviors by encouraging the development of appropriate behaviors, increasing academic success, and reducing factors that encourage problem behaviors for all students and teachers across all settings (Sugai & Horner, 2002). At this
level, the least intensive amount of support is provided to develop appropriate student behavior (Turnbull et al., 2002) and is applied across school-wide, classroom, and non-classroom systems (Newcomer et al., 2002). Universal supports make sure that all students are receiving intervention regardless of identification or referral for a specific behavior problem (Turnbull et al., 2002).

**Secondary support.** Secondary support is aimed at those students who do not respond to universal supports and who may need additional, group support (George et al., 2003; Newcomer et al., 2002; Turnbull et al., 2002). Approximately 15% of an average student body will respond favorably to secondary supports (Sugai & Horner, 2002). Secondary support provides more intensive PBS instruction to smaller groups of students (Turnbull et al., 2002). Students requiring more intense, group supports are those students that have been identified, through routine analysis of data, as being at risk for developing more persistent and severe behavioral problems (Newcomer et al., 2002).

Secondary support interventions should be available on a continuous basis, be provided in a timely manner, require minimal disruption to the classroom, have appropriate and necessary resources available, and involve continuous data monitoring. Immediate identification and action is recommended for students requiring secondary support to reduce the risk of developing chronic behavioral problems (Newcomer et al., 2002). The program being evaluated in the research portion of this paper is a secondary support program.

**Individual support.** Individual support is aimed at those students who demonstrate the most significant and chronic problem behaviors that require an
individualized behavior plan (George et al., 2003; Turnbull et al., 2002). Individual supports are aimed at meeting the need of approximately 5% of an average student body that do not respond to universal or secondary supports (Sugai et al. 2002). Individual support is generally provided to students with disabilities who are receiving special education services, however; these more intensive individual interventions may be provided in the general education setting to those not receiving special education services (Turnbull et al., 2002).
Multi-System Approach

Effective school-wide PBS programs address behaviors across a continuum of school systems (Sugai & Horner, 2002). This multi-system approach addresses behavior in school-wide, non-classroom (lunchroom, playground, hallways, busses, etc.), and classroom systems (Sugai, 1996; Sugai, et al., 2002). The program being evaluated in
this paper was designed to address behaviors that were most commonly associated with the playground, but were also seen in other systems of the school.

**PBS Team**

When developing a school-wide PBS system, schools should begin by forming a team of school staff and support staff who will work together to develop the policies and procedures of their system. The team should be responsible for training other staff on policies and procedures and on the implementation of the school-wide system that has been developed (Lewis et al., 1998; Turnbull et al., 2002). The team is also responsible for reviewing data and establishing improvement plans and staff development activities (Sugai & Horner, 2002).

This team should be responsible for identifying key behavioral expectations that will address the most significant problems that are observed within the school-wide system. These key behavioral expectations should be realistic and age appropriate, should be specific to the needs of the school, and should be structured in easy to remember statements that can be easily taught to staff and students. Behavioral expectations should be posted throughout the school to reinforce the use of positive behaviors (Lewis et al., 1998; Turnbull et al., 2002; Vincent et al., 2002).

**Purpose Statement and Action Plan**

**Purpose statement.** Following the assembly of the PBS team, data should be reviewed by the team to determine the school’s specific behavioral needs (Sugai & Horner, 2002). After data have been evaluated, a purpose statement should be developed that lays out the specific objectives and reasoning for the school-wide PBS system
The purpose statement delineates the procedures of the program to staff and students and sets forth the objectives of the school-wide PBS plan (Covin et al., 1994; Lewis & Sugai, 1999). The purpose statement should use positive language, be focused toward all students, staff, and settings, and tie together behavioral and academic outcomes (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). An example of a purpose statement might look like the following:

The purpose of the school-wide PBS plan at Melbourne Middle School is to

1. Establish school-wide structures and procedures for teachers and students that facilitate teaching and learning,
2. Encourage student behaviors that enhance the learning environment, and
3. Minimize student behaviors that inhibit teaching and learning interactions.

(Covin et al., 1994, p. II-2)

There must be clearly defined behavioral expectations for all students and staff across all settings. It is recommended that these behavioral expectations be confined to five or fewer positively phrased statements that use common, easily understood words or phrases (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). For example, a middle school in Oregon developed these “high-five” behavioral expectations as part of their school-wide PBS system: “(a) be respectful, (b) be responsible, (c) be there-be ready, (d) follow directions, and (e) hands and feet to self” (Taylor-Greene et al., 1997, p. 103).
Action plan. Following the development of the purpose statement, an action plan should be developed for carrying out the purpose statement (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). The action plan should include measurable outcomes of the PBS program, a timeline of events for implementing the program, who has committed to participate and support the program, the specific procedures that will produce measurable outcomes of the program, staff training and development activities, and needed resources (Sugai & Horner, 2002). The action plan should also delineate the process for effectively instructing students in appropriate behavior. These procedures should be clearly defined and available to all staff so that behavioral expectations will be taught consistently throughout the school (Covin et al., 1994).

Teaching Appropriate Behaviors

Procedures need to be in place for teaching behavioral expectations to ensure that students have a clear understanding of school-wide rules, routines, expectations, and negative and positive consequences (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). Expected behaviors should be taught by showing students both correct and incorrect behaviors for school-wide settings, allowing students to practice correct behaviors, testing their understanding and performance of expected behaviors, and providing positive and corrective feedback (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002).

For students to understand and practice expected behaviors they must be taught in a manner that is easy to understand, follow, and implement as part of their daily lives. Social skills instruction is commonly used in school-wide PBS systems as the means of
teaching expected behaviors. Social skills instruction involves teaching students specific behaviors that will help them perform well in social situations. These skills may be as simple as raising a hand and waiting to be called on before answering, saying please and thank you, or sharing (Gresham, 2002).

Instruction of appropriate behaviors should include strategies aimed at increasing the frequency of the performance of newly learned behaviors and the decrease or elimination of prior inappropriate behaviors. Using cues and prompts from both teacher and peers can be effective in helping students remember to use appropriate behaviors. Peers can encourage those who are exhibiting negative behaviors to remember the positive behaviors they have been learning in class. Teachers can also use key words or terms to help students remember how to behave appropriately (Gresham, 2002). The program being evaluated in this paper utilizes both peer and teacher prompts and demonstrations as a means of teaching and reinforcing appropriate behaviors.

Reinforcement

Once the instruction of appropriate behaviors has been established, procedures need to be developed for encouraging expected behaviors through the use of reinforcement. Within any school-wide PBS system, positive performance should be reinforced with positive acknowledgement or reward, and clear consequences should be established for those who are exhibiting inappropriate behaviors (Covin et al., 1994; Gresham, 2002; Lewis et al., 1998; Sugai & Horner, 2002; Vincent et al., 2002). Often, attention is given only to those students engaged in inappropriate behaviors, while those engaged in positive behaviors are neglected (Covin et al., 1994).
While positive reinforcement is effective in encouraging and promoting positive behavior, there will still be incidents of problematic behavior that will need to be dealt with. Procedures must be in place for dealing proactively with problem behaviors (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). Clear definitions and examples of problem behaviors should be developed by the PBS team and distributed to all school staff. These definitions should consider the function of the behavior, the severity of the behavior, and whether the behavior is teacher or administrator managed (Covin et al., 1994; Lewis & Sugai, 1999; Sugai & Horner, 2002). Problem behaviors should be defined on a continuum of minor, major, and illegal infractions and a continuum of procedures and consequences should be clearly defined for dealing with each instance of problem behavior (Covin et al., 1994).

Data Collection and Analysis

It is important in the implementation of a school-wide PBS system that consideration is made of what has occurred in the past, is currently happening, what is working and not working in the school system, and what can be done next to improve (Lewis & Sugai, 1999; Sprague, Sugai, Horner, & Walker, 1999). This will require accurate data collection and analysis. Data collection and analysis can provide the school with information on the consistency of implementation, remind staff of the importance of the school-wide PBS program, and inform the staff of the effectiveness of the school-wide PBS system at meeting its goals and objectives (Covin et al.; George et al., 2003; Sugai, 1996; Sugai et al., 1999; Sugai & Horner, 2002; Turnbull et al., 2002). Monitoring of implementation and effectiveness should be ongoing throughout the entire
school year and data that are collected should be used to make adjustments to the program to enhance its effectiveness (George et al., 2003). Frequent analysis of data is necessary so adjustments or modifications can be made to the program easily and in a timely manner (Sugai et al., 1999).

Monitoring implementation and effectiveness of a school-wide PBS system involves collecting data from a number of sources. Commonly used data for analysis are daily frequency counts of positive and negative behaviors, office discipline referrals, suspension and expulsion records, frequency data of disciplinary measures, and surveys of school climate (George et al., 2003; Lewis et al., 1998; Sprague et al., 1999; Sugai & Horner, 2002; Turnbull et al., 2002). Data from these sources should be collected across all school systems and with regards to the entire PBS continuum (Covin et al., 1994). Data need to be easily accessible and should not require extensive resources for maintaining, recording, and reporting. Data should be collected to answer specific questions that have been previously established for monitoring and adjusting the school-wide PBS program (Lewis & Sugai, 1999).

It is possible to address the issue of increased discipline-related problems in schools, but it requires work on the part of the whole school system. For school-wide PBS to be effective all school teaching staff, administration staff and support staff must be committed to making the program work and implement it with integrity. The program needs to be implemented across the PBS continuum and with a multi-system approach. A PBS team, which is working together toward the same goals, needs to be in place to develop a program that meets the needs of the individual school. Behavioral expectations
need to be developed and communicated so that the entire system is aware of what is expected of them. Appropriate behaviors need to be taught so students can make them a part of their daily routine and can generalize them across multiple settings. Data analysis for progress monitoring of implementation and effectiveness should occur throughout the year, and data that are collected should be used to make adjustments to the program as it is implemented. This research is an evaluation of positive behavior supports in an elementary school and the outcomes of its alternative recess program.
METHODS

The purpose of this research was to evaluate the outcome of a school-wide alternative recess program provided by an elementary school. The program evaluation sought to determine if there was a reduction of problem behaviors both on the playground and throughout the school and if that reduction could be tied to the school's alternative recess program.

Participants

Participants in this study were students in grades K-4 at a small, rural elementary school in northeast Iowa. There were 260 students enrolled at the elementary school in grades K-4 at the end of the data collection period. Student population fluctuated over the six years of data collection with student enrollment going up or down each year by 5 to 10 students. Ninety-eight percent of the students were White and approximately 45% of all students at the elementary school received free and reduced lunch. Of the students in the building, 15% were entitled to receive special education services. The same principal had been at the school since the beginning of the implementation of the PBS program and there had been little turnover in teachers since the beginning of the PBS program.

The school was in its 6th year of implementing a school-wide positive behavior support (PBS) system at the time of this study. The school-wide PBS system included a whole school character development program in which the students were divided into character groups to discuss appropriate behavior and help each other build character. The school-wide PBS program also included an alternative recess program and a reward
program for those demonstrating good character. School staff had been implementing an alternative recess program for five years as a component of their school-wide PBS system. This program was developed as a small group program to address student problem behaviors that were not being addressed through large group PBS instruction. Designed for students in first and second grade, it attempted to teach appropriate ways to relate to others socially and to teach cooperation while stressing playground rules. Throughout this program, an emphasis was placed on teaching sportsmanship, encouragement, and helping each other. During alternative recess, students were also given the opportunities for problem solving and role playing.

Students were referred to alternative recess after they experienced problem behaviors during regular recess or social problems were noted in the classroom. Students were automatically referred to alternative recess for fighting, throwing rocks, and other safety issues. Teachers and associates could also refer a student to alternative recess if they felt it would keep problems from starting or escalating. New students were automatically referred to alternative recess to help them work on social skills, self-esteem, and making new friends. Each student that was referred to alternative recess was required to attend for one recess period per day for five consecutive days. For each unexcused absence, the student was required to attend an additional five consecutive days. The average student attendance each day was approximately 15 students. Half of the students attending each day were at-risk or referred students and the other half were student role models.
Student role models for alternative recess were students who volunteered to be recess helpers and who were selected by their teacher to be a role model for the program for a period of one week. These students were selected as role models based on their exemplary behavior and performance in the classroom as well as those who had shown improvement in their behavior. Students who participated in alternative recess as role models were presented with a certificate at the end of the week and were invited to attend a party at the end of the school year.

Alternative recess was held during morning recess every day on an area of the playground that was separate from the regular recess area or in an empty classroom. During alternative recess, students were taught, and practiced, appropriate behaviors through a variety of games and activities. Each game or activity was designed to target a specific behavior and each game or activity was selected to target one or more of the problem behaviors of the referred students. Also, time was taken for each student to draw or write about his or her problem behavior and the situation that led to the referral to alternative recess. Then the student problem-solved alternative solutions to the situation.

The goal of alternative recess was to help students who were consistently having problems identify the problems and begin to solve them. Also, the program was designed to target overall behavior problems with the hope that this would decrease behavior problems throughout the school. In the school handbook for alternative recess, school staff justified the use of the program through the following statement:
Cooperation is directly related to communication, trust, and development of positive social interaction skills. Children learn to share, empathize with others and be concerned with others’ feelings. Feelings of acceptance are directly related to self-esteem and overall happiness — just as rejection is directly related to lower self-image. A child nurtured on cooperation, acceptance, and success has a greater chance of developing a strong self-concept. From cooperative games, children learn to help one another and be sensitive to another’s feelings. Hopefully this spirit of caring and cooperation will carry over to other areas of school and everyday life situations. Today’s schools bear much of the responsibility for teaching these social interaction skills. The majority of problems happen in unstructured areas such as the playground. Recess seemed the logical choice of areas to begin this type of program.

Design and Procedure

Evaluation is a study conducted to assist an audience to assess an object’s merit and worth (Stufflebeam, Madaus, & Kellaghan, 2000). Likewise, program evaluation is a set of activities that involves collecting information about the effects of policies, programs, curricula, courses, educational software and other instructional materials (Gredler, 1996). For this research, a program evaluation was conducted to determine the outcome of the alternative recess program at the elementary school.

The program evaluation was a summative evaluation because the program had already been in place for five years. The goal of the evaluation was to determine the outcome of the program. The primary evaluation model was an outcome evaluation. This involved conducting a value-added analysis in which the program was evaluated to determine cross-year trends in outcomes, in what areas the program was working best and worst, and in what areas of the program were significant problems that would require further study (Stufflebeam, et al., 2000). This evaluation was designed to measure the
results of the program rather than the inputs or the process of the program (Stufflebeam, et al., 2000).

This study utilized some components of an objectives-based study (Stufflebeam, et al., 2000). This portion of the evaluation determined if the program’s goals and objectives had been achieved. Specifically for the alternative recess program, this evaluation determined if there was a reduction in problem behaviors for students in grades kindergarten through fourth grade.

To measure the outcome and goal attainment of the alternative recess program, data from office referrals were collected and analyzed. Office referral data from the 1999-2000 to the 2004-2005 school year were examined for outcomes. All students were entered into a database and coded by number to maintain confidentiality. The database for office referral data included: student coding number, school year, month, grade, gender, referring teacher, behavior/referral problem, description of situation, location of incident, and action taken in the situation.

A descriptive analysis of the database was performed and data were examined to determine the outcomes of the school-wide PBS program and the alternative recess program on the total number of referrals, as well as effects on target behaviors, location, gender, month, and grade. Data were evaluated to determine if there was a reduction in office referrals for students in first grade through fourth grade over the six year period of data collection. Student data were evaluated to determine the effectiveness of the program in reducing behaviors over time with cohort groups tracked to determine long-term effects. Data for location of offense and type of behavior were examined to
determine if there had been a decrease in office referrals from the playground as well as a
decrease in behaviors that were targeted during alternative recess. Target behaviors that
were worked on in alternative recess include sportsmanship, cooperation, sharing,
physical and verbal aggression, lying, inappropriate language, and noncompliance. Data
were also examined for other outcomes such as reduction of one-time offenders,
reduction of target behaviors in other locations, or any increases or repeat offenders.
RESULTS

Office referral data were analyzed to determine the effects of the school-wide positive behavior support program and the alternative recess program on the overall number of office referrals per year and per grade. Data were used to determine the outcomes of both programs on student cohorts. Data were also examined to look at effects on gender, location, month, and problem behaviors for any significant changes or to determine if there were continued areas of need.

A total of 704 office referrals were collected over a six year period from 1999 to 2005. Each referral indicated the name of the student, the student’s grade, the date of the offense, the referring teacher, the type of behavior, a brief description of the incident, and the action taken in the situation. Over the six year period, a total of 193 students received at least one of the 704 office referrals collected.

Results for Total Number of Referrals. Office referral data were evaluated to look at the number of referrals per grade over the six years of collected data. The evaluation was conducted to determine if there was an overall reduction in office referrals and to determine if there were patterns that could be seen among cohort groups. All cohort groups received at least one year of the entire school-wide PBS program, but not all cohorts received alternative recess. Alternative recess was only offered for first and second grade, so only students that were in first and second grade during the six years of data collection received alternative recess.

When the data were initially analyzed, it was seen that there was a decrease in the total number of office referrals from Year 1 to Year 6. In Year 1 there was a total of 165
office referrals made for students in grades kindergarten through fourth grade (approximately .87 referrals per school day). By Year 6, the total number of referrals had dropped significantly to only 59 referrals for students in grades kindergarten through fourth grade (approximately .31 referrals per school day). This was an overall decrease of 106 referrals, or a reduction of almost 64%, from Year 1 to Year 6. Table one demonstrates this decrease by grade per school year. Cohorts can be tracked on the diagonal in Tables one, two, and three. The school-wide PBS program began during the 1999-2000 school year and the alternative recess program began during the 2000-2001 school year. Students in all grades receive the school-wide PBS program, while the alternative recess program is only for students in first and second grades. By following cohort groups you can see that some groups received little of the PBS program and the alternative recess program while other groups received many years of both programs.
Table 1

Number of Office Referrals per Grade per School Year – With Outliers

<table>
<thead>
<tr>
<th>School Year</th>
<th>Kindergarten</th>
<th>First grade</th>
<th>Second grade</th>
<th>Third grade</th>
<th>Fourth grade</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>13</td>
<td>39</td>
<td>40</td>
<td>50</td>
<td>23</td>
<td>165</td>
</tr>
<tr>
<td>2000-2001</td>
<td>25</td>
<td>8</td>
<td>34</td>
<td>44</td>
<td>27</td>
<td>138</td>
</tr>
<tr>
<td>2001-2002</td>
<td>35</td>
<td>40</td>
<td>15</td>
<td>4</td>
<td>42</td>
<td>136</td>
</tr>
<tr>
<td>2002-2003</td>
<td>16</td>
<td>65</td>
<td>30</td>
<td>2</td>
<td>3</td>
<td>116</td>
</tr>
<tr>
<td>2003-2004</td>
<td>28</td>
<td>12</td>
<td>31</td>
<td>9</td>
<td>10</td>
<td>90</td>
</tr>
<tr>
<td>2004-2005</td>
<td>14</td>
<td>22</td>
<td>5</td>
<td>10</td>
<td>8</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>131</td>
<td>186</td>
<td>155</td>
<td>119</td>
<td>113</td>
<td>704</td>
</tr>
</tbody>
</table>

Note. Table 1 includes office referrals for outlying students.

While an overall decrease was seen, there appeared to be inconsistency in number of referrals when the data were examined by individual cohort groups. It was assumed that the number of office referrals per cohort would also decrease over the six year period as did overall number of referrals per year. However, this assumption was not supported when all students were included in the analysis. Two of the cohorts showed a large increase in referrals from kindergarten to first grade. In order to better understand the effects of the school-wide program on the majority of students the data were separated to look at it without outliers. Outliers are students with a large number of office referrals as
compared to their cohort. The outliers were determined by using a box plot for each cohort and removing the students outside of the box plots.

When outliers were removed it was possible to see the outcomes of the school-wide PBS system and the recess program on the majority of the elementary population. By removing the outliers, 19 of the 193 students were eliminated from the analysis, leaving 90% of the student data to be analyzed. Data were again examined to see the effects on the total number of referrals per grade over the six year period. Again, a decrease was seen in total referrals per year over the six year period. There was a decrease from 136 referrals in Year 1 (approximately .72 referrals per school day) to 35 referrals in Year 6 (approximately .18 referrals per school day). This was a reduction of 101 referrals, or a reduction of 74%, over the six year period.

Data without outliers also showed that there was a steady decrease in office referrals by cohorts over the six year period. A slight increase was seen in one cohort from first grade to second grade, but when the particular cohort was looked at individually it appeared that the increase was due to a spike in referrals for one particular student in second grade. Table 2 demonstrates this decrease per grade by school year when outliers were removed from the data.
Table 2

Number of Office Referrals per Grade per School Year – Without Outliers

<table>
<thead>
<tr>
<th>School Year</th>
<th>Kindergarten</th>
<th>First Grade</th>
<th>Second Grade</th>
<th>Third Grade</th>
<th>Fourth Grade</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>11</td>
<td>16</td>
<td>36</td>
<td>50</td>
<td>23</td>
<td>136</td>
</tr>
<tr>
<td>2000-2001</td>
<td>16</td>
<td>5</td>
<td>20</td>
<td>26</td>
<td>27</td>
<td>94</td>
</tr>
<tr>
<td>2001-2002</td>
<td>21</td>
<td>17</td>
<td>9</td>
<td>3</td>
<td>20</td>
<td>70</td>
</tr>
<tr>
<td>2002-2003</td>
<td>10</td>
<td>17</td>
<td>14</td>
<td>1</td>
<td>2</td>
<td>44</td>
</tr>
<tr>
<td>2003-2004</td>
<td>12</td>
<td>3</td>
<td>25</td>
<td>7</td>
<td>10</td>
<td>57</td>
</tr>
<tr>
<td>2004-2005</td>
<td>7</td>
<td>11</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>69</td>
<td>109</td>
<td>97</td>
<td>84</td>
<td>436</td>
</tr>
</tbody>
</table>

Note: Table 2 does not include office referrals for outlying students.

Table 3 shows the number of office referrals per grade per year by those students who were identified as outliers, or repeat offenders. The data indicates that students who were repeat offenders, or outliers, showed inconsistencies in number of referrals by cohort. Total referrals showed decreases in some years and increases in other years. Data also indicates that students who were repeat offenders were responsible for 268 of the 704 total office referrals over the six year period. The data shows that the 19 outlying students were responsible for 38% of all office referrals during the six year period.
Table 3

Number of Office Referrals per Grade per School Year – Outliers Only

<table>
<thead>
<tr>
<th>School Year</th>
<th>Kindergarten</th>
<th>First Grade</th>
<th>Second Grade</th>
<th>Third Grade</th>
<th>Fourth Grade</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999-2000</td>
<td>2</td>
<td>23</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>2000-2001</td>
<td>9</td>
<td>3</td>
<td>14</td>
<td>18</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td>2001-2002</td>
<td>14</td>
<td>23</td>
<td>6</td>
<td>1</td>
<td>22</td>
<td>66</td>
</tr>
<tr>
<td>2002-2003</td>
<td>6</td>
<td>48</td>
<td>16</td>
<td>1</td>
<td>1</td>
<td>72</td>
</tr>
<tr>
<td>2003-2004</td>
<td>16</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>2004-2005</td>
<td>7</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>24</td>
</tr>
<tr>
<td>Total</td>
<td>54</td>
<td>117</td>
<td>46</td>
<td>22</td>
<td>29</td>
<td>268</td>
</tr>
</tbody>
</table>

Note. Table 3 includes only office referral for outlying students.

Results for Gender. Data were also analyzed by gender to see trends and effects on male and female student populations. Gender trends were looked at for both the whole population including outliers and just by the outlier group. When looking at the whole population, there were substantially more referrals over the six year period for males than females. Males received 613 referrals (87.1%) and females received 91 referrals (12.9%). Data showed that males showed the most significant decrease in number of office referrals over the six year period. Males had 143 referrals in Year 1 and dropped to only 54 referrals in Year 6. Females did show some decrease, but only from 22 referrals in Year 1 to 5 referrals in Year 6. One interesting note is that males
decreased steadily over the six year period, while females showed fluctuation over the six years with increases in years three and five.

When the data for gender were examined just for those who were repeat offenders, males had 92.5% of the referrals and females had only 7.5% of the referrals. This indicates that the majority of students who were repeat offenders, or outliers, at the elementary school were male. Over the six year period, males who were also outliers/repeat offenders did not show a decrease in number of referrals. There is little difference from Year 1 to Year 6; however there was a large increase in referrals during years two, three, and four for repeat offending males.

Results for Location. Location of the offense was analyzed for trends and changes over the six year period. The classroom was the location where students most frequently displayed behaviors that warranted an office referral and the playground was a close second. Of the 704 referrals that were collected over the six year period, 309 were from offenses in the classroom (43.9%) and 244 were from offenses on the playground (34.7%). There were 60 office referrals for behaviors on the bus, 43 for incidents in the hallway, 35 for behavior in the lunchroom, and 13 for other locations around the school. Overall, offenses in the classroom and on the playground accounted for 78.6% of all office referrals.

When data was looked at for location over the six year period, there were more office referrals in Year 1 on the playground than in the classroom. Referrals in the classroom went up during years two, three, and four and then made a decrease in years five and six. Referrals from the playground made steady decreases over the six year
period. There were 86 referrals from the playground in Year 1 and only 17 referrals from the playground in Year 6. This was a decrease of 69 referrals, or approximately 80%.

There was also a decrease in referrals from the bus from Year 1 to six. In Year 1 there were 26 office referrals from the bus and in Year 6 there were zero bus referrals. Other locations showed some changes, but generally stayed consistent in number of referrals over the six year period. Table 4 demonstrates the change in referrals by location per year.

Table 4

<table>
<thead>
<tr>
<th>Location</th>
<th>School Year</th>
<th>Classroom</th>
<th>Recess</th>
<th>Lunch</th>
<th>Hallway</th>
<th>Bus</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1999-2000</td>
<td>40</td>
<td>86</td>
<td>6</td>
<td>6</td>
<td>26</td>
<td>1</td>
<td>165</td>
</tr>
<tr>
<td></td>
<td>2000-2001</td>
<td>56</td>
<td>49</td>
<td>7</td>
<td>11</td>
<td>15</td>
<td>0</td>
<td>138</td>
</tr>
<tr>
<td></td>
<td>2001-2002</td>
<td>67</td>
<td>39</td>
<td>4</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>136</td>
</tr>
<tr>
<td></td>
<td>2002-2003</td>
<td>67</td>
<td>31</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>2</td>
<td>116</td>
</tr>
<tr>
<td></td>
<td>2003-2004</td>
<td>51</td>
<td>22</td>
<td>4</td>
<td>5</td>
<td>8</td>
<td>0</td>
<td>90</td>
</tr>
<tr>
<td></td>
<td>2004-2005</td>
<td>28</td>
<td>17</td>
<td>7</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>59</td>
</tr>
<tr>
<td>Total</td>
<td>309</td>
<td>244</td>
<td>35</td>
<td>43</td>
<td>60</td>
<td>13</td>
<td>704</td>
<td></td>
</tr>
</tbody>
</table>

Results for Month. The month that the offense occurred was also analyzed for trends. When looking at frequency of referrals per month over a six year period there
was little difference between months and number of referrals. September was the month that had the highest total number of referrals and August had the fewest. Other months that were higher in referrals were March, April, May, September, and November. Months with fewer referrals were January, February, and December. Results by month indicated no significant findings that demonstrated areas of need or months in which the PBS program was more successful.

Results for Grade. There was also very little variation in number of referrals by grade over the six year period. Students had the highest number of referrals in first and second grade, but only slightly more than kindergarten, third, and fourth grades. First grade had the most referrals and fourth grade had the fewest referrals with 10.3% fewer referrals from fourth grade than first grade. This may indicate that teachers were consistent in their referral process over all grade levels and one grade was not responsible for a much higher or lower number of referrals. This may also indicate that students who had received multiple years of school-wide PBS and the alternative recess program had less referrals than students in first grade who have had little of the school-wide PBS program and alternative recess program.

Results for Problem Behaviors. The highest number of referrals were given in the six year period for physical aggression and noncompliance behaviors. Of the total 704 office referrals collected, 301 were for a primary offense of physical aggression and 277 were given for a primary offense of noncompliance. There were 59 referrals given for verbal aggression, 33 for inappropriate language, 4 for bullying or harassment, and 30 for other types of offense.
Some students who received an office referral were referred for multiple behaviors. There were 134 referrals that were given for multiple behaviors. Most students who had multiple behaviors displayed either physical aggression or noncompliance and then another behavior. Secondary offenses that occurred most often were physical aggression, verbal aggression, noncompliance, and inappropriate language. Bullying and harassment occurred the least as a secondary offense, however, students who displayed multiple behaviors had a slightly higher tendency to display bullying or harassment than those only displaying one behavior.

Over the six year period there was a decrease in the number of students receiving referrals for both physical aggression and noncompliance. In Year 1 there were 90 referrals for physical aggression and there were only 22 referrals for physical aggression in Year 6. Referrals for noncompliance also decreased from 55 referrals in Year 1 to 23 referrals in Year 6.

Limitations

It is important when using office referrals for analyzing a school-wide positive behavior support program to remember that there are some limitations to the data that are collected from office referrals. While teachers are trained in the use of office referrals and are expected to be consistent in their use of them, it is important to remember that each teacher or staff member is different and student behavior may result in a different response from one teacher than another (Sprague, Sugai, Horner, & Walker, 1999). Also, data collected from Year 1 of this study was from the first year of the use of the current
office referral system. Inconsistencies may have been higher during the first few years of implementation than during the last years of implementation.

It is also important to note that data was not available for the years prior to the implementation of the school-wide PBS program, so it is impossible to compare the existing data with that of the years prior to program implementation. Lack of prior data makes it difficult to make hypotheses and conclusions about the results of existing data and the overall effectiveness of the school-wide PBS program and the alternative recess program. Data in this study should be looked at under these existing limitations and conclusions should be made with these limitations in mind.

There may have also been inconsistency across years if there were any students that moved in or out of the school district. While the district has had a fairly stable population with little movement in and out, there may be some influence on the number of referrals because of change in student population. The school district did have some decrease in population from the 2002-2003 school year to the 2003-2004 school year, but maintained a relatively stable student population in all other years.

Another limitation that exists when using office referral data is the consistency of the teachers in writing referrals. In some ways, office referrals are measuring teacher behavior in that referrals may have decreased over time because teacher behavior changed. If teachers became more skilled at classroom management or became more tolerant of behavior they may have written fewer office referrals. No measure was used in this study to determine if there had been a significant change in teacher behavior to determine if the reduction in office referrals was due to these factors. Further
investigation would have to be done beyond the office referral data to determine if teachers were consistent over the years in how they wrote office referrals.

As is the case with all behaviors, it is impossible to count all problem behaviors that occur while students are at school. This can occur because of teacher preference or because the behavior is not seen by an adult or student who can report the behavior. Office referral data is not a perfect and all-inclusive picture of the behavior of all students in a school building, but it is a relatively easy and useful tool for doing an analysis of a school-wide PBS program. Office referral data is also one of the few ways to investigate the effects of a school-wide PBS program or to determine areas of strength and weakness in the behavior of students. Further investigation could have been done through the use of teacher, student, parent, and other staff interviews, school climate surveys, or observations of behavior across grades and settings.
DISCUSSION

There was a reduction in the number of office referrals over the six year period, indicating a change in the documented problem behaviors of the students at the elementary school. Office referrals were reduced substantially following the implementation of the school-wide PBS system, and continued to decrease after the implementation of the alternative recess program.

Since the implementation of the school-wide PBS program and the alternative recess program the school has seen a significant reduction in office referrals for problem behavior. There was over a 60% reduction in office referrals from Year 1 of the data to Year 6 of the data. In the first year of the school-wide PBS program there was an average of .87 office referrals per day. By Year 6 office referrals had decrease to .31 referrals per day. While it is impossible to determine that this decrease was due solely to the school-wide PBS system and the alternative recess program, these programs appear to have contributed to the reduction of office referrals over this six year period.

Although there was an overall reduction in office referrals over the six year period, it was inconsistent over cohorts when all students were included in the analysis. Universal supports, or school-wide programs and even secondary supports, such as an alternative recess program, are designed to address the needs of 80-95% of students (George et al., 2003; Sprague, et al., 1999). To determine the effects of the school-wide PBS program and the alternative recess program it was important to look at the effect on those students who fell in the 80-95% of the population who were displaying problem behaviors, but not to the extreme extent of the 5-15% who were displaying a significant
amount of problem behaviors. When data were looked at without those students who were significant multiple offenders, the data showed the types of changes that would have been expected from a program of this nature. The total office referrals decreased steadily from Year 1 to Year 6 and also decrease steadily within cohort groups. The school-wide programming was probably making a difference in problem behaviors, not only for one-time offenders, but for those who had 2-5 offenses and required more intensive secondary supports from the alternative recess program.

Students with more problematic behavior and repeat offenses were also looked at separately from the whole group. There was inconsistency throughout the six years in the number of total referrals as well as number of referrals for particular students. This may indicate that these outlying students were not responding in the same way as their peers to the school-wide PBS program or the alternative recess program. These students continued to display problem behaviors even when provided with a strong school-wide PBS program and an equally strong secondary program of alternative recess. This may indicate a need for these students to receive more intensive individual supports such as an individual behavior plan, an individual education plan to address behavior problem, individual support from a school counselor, school social worker or school psychologist, or some other type of family or individual counseling or support.

Other areas of significant change were in the particular behaviors that were being committed and the locations in which those behaviors were occurring. First, the most common behaviors in the first year of the PBS program were physical aggression and noncompliance. These were problem behaviors that were specifically targeted during
both the school-wide PBS program and the alternative recess program in the following five years. While these types of offenses remained the highest each year, the number of referrals for each was reduced significantly from Year 1 to Year 6. In Year 1 there were 90 office referrals given for physical aggression and in Year 6 there were only 22 given for physical aggression. There were 55 referrals given for noncompliance in Year 1 and only 23 given for noncompliance in Year 6. This may indicate that students who had received both the school-wide PBS program and the alternative recess program were learning alternative ways to behave rather than becoming aggressive or being noncompliant. Students may also have benefited from knowing that there were rewards and consequences that come as a result of their behavior and may have been more cognizant of how they acted than they would have been had they not received the PBS program.

Secondly, there was a change in the location of offenses. In total over the six year period, the most referrals came from the classroom. However, in Year 1 over half of the office referrals came from the playground and over twice as many referrals came from the playground than from the classroom. There was a steady decrease in the number of referrals each year from the playground over the six year period with a total decrease from 86 referrals in Year 1 to 17 referrals in Year 6. This was an 80% decrease in referral from the playground over this six year period. Classroom referrals showed some decrease over the years, but did show and increase during Years 2, 3, and 4. In total, from Year 1 to Year 6, office referrals from the classroom decreased by 30%.

It is impossible to isolate the effects of the alternative recess program separate from the entire school-wide PBS program, but it is encouraging to see a large reduction
of offenses on the playground. The playground can be a location where it is difficult to manage student behavior, but the school appeared to be teaching students to behave in an appropriate way. Some of this may be a result of the alternative recess program and its emphasis on addressing actual behaviors that have been show on the playground.

There also was an overall reduction of office referrals in the classroom from Year 1 to Year 6. However, they increased every year from Year 1 to four and then decreased in years five and six. When the outlying students, repeat offenders, were removed there was more consistency in the reduction of referrals from the classroom. This may indicate that many of the referrals by repeat offenders occurred in the classroom. The school may want to look at the location of offenses more closely for students that they are considering for more intensive individual support to determine if that may be a factor in their problem behavior. This information may also be helpful in the development of student specific interventions. A functional behavior assessment may show that some of these repeat offenders are displaying problem behaviors because of the setting.

It is interesting to note the difference in the number of referrals received by males and females. As a whole, males received 87.1% of all referrals over the six year period, while females received only 12.9% of the all referrals over the six year period. When repeat offenders were separated out from the whole group, males received 92.5% of referrals and females only received 7.5% of referrals. This indicates that males in general have more difficulty with their behavior and that males tend to be repeat offenders more than females. While they did show a decrease in office referrals over the six year period, males received the majority of office referrals ever year during the six year period. It
may be beneficial to investigate additional programming and/or small group support that can address the specific behaviors of the male population in the school.

While it is not possible to determine the effects of either the school-wide PBS program or the alternative recess program in isolation from each other, there were significant changes in the overall behavior of students in the school building. These changes were seen most clearly in the 90% of students who had zero to five office referrals, but some small changes were also seen in the 10% of students who are repeat offenders. The school was providing the majority of students with the necessary instruction, environment, reinforcers, and consequences to help them display appropriate behaviors rather than problem behaviors. The school should continue to use their school-wide PBS program and their alternative recess program, monitoring office referral data for trends and changes to identify areas of improvement or need.

It is important to remember that office referral data has limitations and the results of an analysis of this type of data should not be looked at as the sole source of information about the behavior of students in the building. The school may want to further investigate the climate of the school building by conducting structured observations of students in a variety of settings over time, by collecting teacher, student, and parent survey data of the perception of the school climate, and assessing student knowledge of appropriate behavior before and after receiving PBS programming. Additional data from these types of investigations may provide further clarity into the effectiveness of the school-wide PBS program and the alternative recess program and may provide additional insight into other areas of need in the school.
More examples of school-wide PBS programs are available in the current research literature and demonstrate different approaches that have been taken by individual schools. Results of these studies demonstrate similar outcomes as were described in this study. These studies may be valuable in the development, or restructuring, of a school-wide PBS system (Eber, Lewis-Palmer, & Pacchiano, 2002; Lewis et al., 1998; Lewis, Powers, Kelk & Newcomer, 2002; Metzler, Biglan, Rusby & Sprague, 2001; Nelson, Martella, & Marchand-Martella, 2002; Sprague, Walker, Colly, White, Myers, & Shannon, 2001; Taylor-Greene et al., 1997).
REFERENCES


