

# Positive Behavior Support: Analysis of Consistency Between Office Discipline Referrals and Teacher Recordings of Disruptive Classroom Behaviors

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## Abstract

This study investigated the representativeness of office discipline referrals for disruptive classroom behaviors within a positive behavior support implementation over 17 weeks. In-class reporting and office discipline referrals were gathered across three schools. Twelve teachers took in-class data on 20 students receiving secondary- or tertiary-level interventions in School 1. Ten teachers took in-class data on 14 students receiving secondary- or tertiary-level interventions in School 2. Eight teachers took in-class data on 11 students receiving secondary- or tertiary-level interventions in School 3. Results of this study indicated that office discipline referrals were not representative of teacher recordings of classroom behavior. Implications and areas of future research will be discussed.

## Keywords

Office disciplinary referrals, in-class behavior, positive behavior support, three-tier model, primary-level intervention, secondary-level intervention, tertiary-level intervention

Schools need to be safe environments where students can learn the necessary skills to be contributing members of society. Unfortunately, many schools are facing students who challenge traditional reactive discipline models and jeopardize safety in schools. For example, in 2006 approximately 6% of students aged 12 to 18 years said they were afraid of being harmed at school, and 86% of public schools reported incidents of crime (National Center for Education Statistics, 2007). The ability of educators to provide instruction and permit a safe learning environment is significantly impaired by those students who engage in violent, disruptive, defiant, and dangerous behaviors (Crone & Horner, 2003).

One way to address traditional behavior problems in our schools is through the implementation of a proactive model called school-wide Positive Behavior Support (PBS). PBS has as its foundation, applied behavior analysis (Johnston, Foxx, Jacobson, Green, & Mulick, 2006). According to Sugai et al. (2000), "PBS is a general term that refers to the application of positive behavioral interventions and systems to achieve socially important behavior change" (p. 133). PBS is a combination of behavioral science, practical interventions, social values, and a systems perspective. In this model, the assumption of behavioral science is that human behavior is learned and can be controlled through manipulating the environment to produce positive outcomes. Further, practical interventions with ongoing data collection and analysis to inform decisions are emphasized. PBS addresses social values by ensuring that behavior change is socially significant. Finally, a systems perspective is emphasized that addresses

all contexts of the school (e.g., school-wide, classroom, common non-classroom specific areas, and individual students).

School-wide PBS includes three levels or tiers of systematic prevention of behavior problems: primary, secondary, and tertiary (Walker et al., 1996). In this three-tier model, primary-level programs target all students with universal interventions that teach a clear set of positive expectations across all school environments. Typically, three to five broad expectations are taught (e.g., be safe, be respectful, be kind). "Research strongly suggests that 80 to 90 percent of children respond well to simple, school-wide discipline policies that emphasize good behavior" (Cortese, 2007, p. 7). By maximizing student academic and social success, designing and presenting effective and interesting instruction, and teaching school success skills, schools can establish primary-level programs that have the greatest possible impact on our schools (Walker et al., 1996).

Secondary-level interventions target 5% to 15% of students who are at risk for problem behavior (Crone & Horner, 2003). Secondary-level interventions are targeted to students who have not benefited from primary programs. These interventions may include focused small group instruction in social skills for students with poor or inappropriate peer or adult interactions. Specific secondary-level interventions include social skills clubs and check in/check out systems (Office of Special Education Programs, 2007).

Tertiary-level interventions focus attention on 1% to 7% of students who exhibit chronic and intense problem behaviors (Crone & Horner, 2003). These interventions target students with severe

behavior problems who did not benefit from primary-level programs or secondary-level interventions. These students require intensive and individual specialized services. A behavior support team develops a behavior support plan for these students. Tertiary-level interventions include individualized self-management training, contingency management strategies, and one-on-one tutoring. Most students at this level require wrap-around services involving community members, parents, and other specialists.

It has been reported that one way to help identify students across each of the three tiers is through the use of the *School Wide Information System (SWIS)* (Irvin et al., 2006). *SWIS* is a web-based data system that uses information from office discipline referral (ODR) forms including the student's name, referring teacher, time of day, and location of the problem behavior. The school can use ODR data from *SWIS* to determine when and where specific student behaviors occur. In turn, they can use this information as a tool to improve school discipline practices, support planning of interventions, and report discipline data to the district or state.

Although *SWIS* provides an opportunity to identify students with behavior problems, the appropriate data must first be input. Schools need a method of obtaining valid data concerning student behavior, school and classroom climate, and the overall effectiveness of PBS intervention programs. Schools across the nation commonly use office discipline referrals (ODRs) to obtain these data (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). For example, Gottfredson (2001) found that ODRs were used 79% of the time as an outcome measure to evaluate school-wide discipline programs. Benefits of such a system include its ease of implementation: collecting, managing, and tracking data to formulate a comparative index of student behavior is much simpler than in other models (e.g., observation). Further, Tidwell, Flannery, and Lewis-Palmer (2003) noted that office discipline referral data could be a useful tool for making decisions about assessment needs, program planning, staff development, and program evaluation.

Researchers have reported that ODRs are useful data for classroom teachers to screening for behavioral difficulties, monitor behavioral progress, and evaluating classroom behavioral interventions. Rusby, Taylor, and Foster (2007) found that ODRs in kindergarten and first grade predicted classroom teacher ratings on the *Child and Adolescent Disruptive Behavior Inventory (CADBI)* version 2.3; Burns, Taylor, & Rusby, 2001) and parent ratings of disruptive behavior on the same measure at the end of kindergarten and first grade. Evidence for the predictive validity of ODRs in elementary classroom settings was also found by Walker, Cheney, Stage, and Blum (2005). These researchers found that students with two or more ODRs ( $N = 72$ ) across three elementary schools had significantly higher ratings on classroom teacher ratings on the problem behavior scale of the *Social Skills Rating System* (Gresham & Elliot, 1990). These data indicate ODRs have evidence of validation for detecting problem behavior in the classroom, particularly those of an externalizing nature. Irvin et al. (2004) conducted a comprehensive review of the ODR validation literature. These researchers stated, "Office discipline referrals appear to be sensitive measures of the effects of interventions designed to change student behav-

ior and to improve school and classroom climate (p. 139)." In sum, ODRs appear to have evidence of validation in predicting classroom behavior problems, monitoring classroom behavior problems, and evaluating efforts to improve the classroom environment.

Despite this knowledge, further research suggests that ODR data should be interpreted with caution. Nelson, Benner, Reid, Epstein, and Currin (2002) found ODR data can often underestimate the needs of students with internalizing types of behavior (e.g., anxiety disorders and depression) but may identify a large number of students with externalizing types of behavior (e.g., disruptive, noncompliant). Although Nelson and colleagues found ODRs to be relatively strong predictors of poor outcomes, they also discovered ODRs have little predictive power in relation to other social-behavioral variables. Further, schools and teachers use ODRs differently, and may not have common definitions of behaviors that result in ODRs. Classroom management, discipline policies, levels of teacher tolerance, and a number of other variables influence the use of ODRs. Overall, ODRs are likely more representative of teacher behavior as opposed to student behavior.

The problem then from an applied behavior analytic standpoint is ODRs are not direct measures of student behavior. However, as previously stated, many studies in the PBS literature have used "indirect and subjective measures of behavior, such as disciplinary referrals by teachers" (Johnston et al., 2006). For example, Clonan, McDougal, Clark, and Davison (2007) used ODRs to inform decisions made by school problem-solving teams. The authors noted, "emphasis is placed on the use of ODRs as an ongoing barometer of *student behavior* that is useful to teams in developing and monitoring interventions" (p. 21, emphasis added). Although Clonan et al. suggested "these data at least minimally offer an accessible and widely available measure of school climate and student behavior in a given school site" (p. 21), they also stated ODRs have "the potential for teacher bias in the documentation of student behavior, variations in teacher tolerance for misbehavior, and a lack of independent or objective data related to the behavior" (p. 21).

Further, Hawken, MacLeod, and Rawlings (2007) used ODRs to monitor the effects of an elementary-based intervention with four groups of three students. They implemented a modified check-in, check-out system and found decreases in ODRs for each group. Unfortunately, in-class behavior was not reported. Hawken et al. stated that a change in ODRs "may not always directly correlate with reductions in problem behavior in the classroom" (p. 99).

Finally, Putnam, Luiselli, Handler, and Jefferson (2003) evaluated student disciplinary practices through the use of ODRs. The authors concluded ODRs are readily available in schools and are useful in identifying discipline problems, aiding in the design of interventions, and evaluating intervention outcomes. They acknowledged ODRs were not linked to actual in-class disruptive behavior. In fact, the authors questioned the reliability and validity of the ODR data reported in their study. ODRs "may have decreased because the classroom teacher was singled out or her management skills improved over time" (p. 522).

Overall, we see in much of the PBS literature the use of ODRs as the primary dependent measure despite the fact the au-

thors themselves note concerns with the reliability and validity of these data in representing actual in-class student behavior. Thus, the purpose of this study was to determine if ODRs represent overall disruptive classroom behavior.

## ■ METHOD

This investigation occurred throughout the 2006-2007 academic year. Data were collected on 25 students receiving secondary-level interventions and 20 students receiving tertiary-level interventions at three public elementary schools located in an urban area in the Northwest (see Table 1). Students who were not responding to the primary-level programs received secondary-level interventions. Students who were not responding to the primary-level programs and/or the secondary-level interventions received tertiary-level interventions. These decisions were based on SWIS data (i.e., level of ODRs) and on the professional judgment of classroom teachers and counseling staff.

### PARTICIPANTS

*School 1.* At the beginning of the study, there were 23 students initially identified by school staff. Two students moved immediately before the study began and one was added during the fourth week after noting the severity of the behaviors exhibited by the student. Five students were in the same class; unfortunately, the teacher was not able to record in-class data on all five students. It was decided that the teacher would keep data on the three most severely behaved students. Thus, 20 students (12 students receiving secondary-level interventions [2 in special education and 10 in general education], 8 students receiving tertiary-level interventions [2 in special education and 6 in general education]) across 12 classrooms were included in the study for School 1.

*School 2.* A group of 23 students were initially identified by school staff. Two students who were identified because of academic rather than behavioral issues were excluded from the study. Five students were removed from the study because their teachers could not commit to recording behavioral data. One student moved at the beginning of the study and another moved during the study. Thus, 14 students (8 students receiving secondary-level interventions [1 in special education and 7 in general education], 6 students receiving tertiary-level interventions [1 in special education and 5 in general education]) across 10 classrooms were included in the study for School 2.

*School 3.* A group of 17 students were initially identified by school staff. Six students were removed from the study because their teachers could not commit to recording behavioral data. Thus, 11 students (5 students receiving secondary-level interventions [1 in special education and 4 in general education], 6 students receiving tertiary-level interventions [2 in special education and 4 in general education]) across eight classrooms were included in the study for School 3.

### SETTING

*School 1.* School 1 had an enrollment of 342 students (61% male, 39% female). School demographics included 85% Caucasian, 7.8% Hispanic, 4.5% Black, 0.9% Asian, and 1.5% American Indian/Alaskan Native. Thirteen percent of students received

special education services and 69% of students qualified for free and reduced-priced lunches. There were 20 teachers at the school.

*School 2.* School 2 had an enrollment of 371 students (49% male, 51% female). School demographics included 92.7% Caucasian, 2.1% Hispanic, 2.4% Black, 2.1% Asian, and 0.3% American Indian/Alaskan Native. Ten percent of students received special education services and 28% of students qualified for free and reduced-priced lunches. There were 22 teachers at the school.

*School 3.* School 3 had an enrollment of 294 students (53% male, 47% female). School demographics included 85.9% Caucasian, 5.9% Hispanic, 4.3% Black, 1.0% Asian, and 2.6% American Indian/Alaskan Native. Fourteen percent of students received special education services and 60% of students qualified for free and reduced-priced lunches. There were 15 teachers at the school.

### SCHOOL-WIDE POSITIVE BEHAVIOR SUPPORT

All three schools had been involved in positive behavior support programs over a period of several years. All three schools implemented a three-tier PBS model. Components of the model follow.

*School 1.* All students were taught five broad expectations (i.e., be kind, be safe, be cooperative, be respectful, be peaceful) across all school settings (i.e., classroom, playground, hallways, cafeteria, bathroom). Students were taught these expectations at the beginning of the school year; these expectations were reviewed after winter and spring breaks. These lessons were designed and implemented to meet the needs of each classroom. Students were provided a slip for displaying the appropriate behavior. Students who earned these slips put them in a container in their classroom, where weekly raffles rewarded students with the privilege of lunch with the principal. Student recognition breakfasts occurred every six weeks. The slips were counted every Friday and sent home with students to show their parents. In addition, staff handed out slips to any class exhibiting the expectations, not including their own class. When individual classrooms received 10 classroom slips, the teacher arranged a party in the classroom. The entire school received an extended recess on Fridays when each classroom earned 50 slips.

When problem behaviors occurred, students were sent to a personal responsibility (PR) room supervised by the school's counselors. This room was a locker room used for small group instruction as well individual skills training, counseling, and in-school suspension. The two counselors taught expectations and allowed students space to calm down while the classroom teachers continued to teach their class.

Students were given ODRs and referred to the principal for any behaviors that were chronic and/or severe in nature, physically dangerous to themselves or to others, illegal, or flagrantly disrespectful of authority. Parents were involved at this level in developing an intervention that would meet their individual child's needs. Monthly meetings were held to discuss progress made in the program and to evaluate data from SWIS for active decision making.

Students who did not respond to the primary-level programs were targeted for secondary-level interventions. Secondary-

Table 1. Student Information

Student	School	Grade	Intervention Level	Special Education Yes/No	Frequency of In-Class Behaviors	ODRs
1	1	K	Secondary	No	147	1
2	1	2	Secondary	No	114	2
3	1	2	Secondary	No	67	0
4	1	2	Secondary	No	91	2
5	1	3	Secondary	No	75	0
6	1	4	Secondary	No	95	0
7	1	4	Secondary	No	89	0
8	1	4	Secondary	No	84	3
9	1	4	Secondary	Yes	10	0
10	1	4	Secondary	Yes	74	1
11	1	5	Secondary	No	23	1
12	1	5	Secondary	No	80	0
13	2	K	Secondary	No	297	1
14	2	1	Secondary	No	197	1
15	2	2	Secondary	No	234	0
16	2	2	Secondary	No	84	0
17	2	2	Secondary	No	288	0
18	2	4	Secondary	No	253	0
19	2	5	Secondary	No	52	1
20	2	5	Secondary	Yes	126	3
21	3	K	Secondary	Yes	41	2
22	3	1	Secondary	No	74	4
23	3	1	Secondary	No	287	2
24	3	2	Secondary	No	623	7
25	3	3	Secondary	No	272	7
<b>Mean</b>					151.08	1.52
Student	School	Grade	Intervention Level	Special Education Yes/No	Frequency of In-Class Behaviors	ODRs
26	1	1	Tertiary	No	986	1
27	1	1	Tertiary	Yes	422	1
28	1	2	Tertiary	Yes	241	0
29	1	2	Tertiary	No	292	0
30	1	3	Tertiary	No	255	2
31	1	3	Tertiary	No	148	2
32	1	3	Tertiary	No	20	0
33	1	5	Tertiary	No	43	2
34	2	K	Tertiary	No	203	3
35	2	3	Tertiary	No	146	3
36	2	3	Tertiary	No	108	3
37	2	4	Tertiary	Yes	586	2
38	2	4	Tertiary	No	256	0
39	2	5	Tertiary	No	216	0
40	3	K	Tertiary	No	185	3
41	3	2	Tertiary	No	81	1
42	3	3	Tertiary	Yes	261	6
43	3	3	Tertiary	Yes	194	7
44	3	3	Tertiary	No	1238	8
45	3	5	Tertiary	No	3016	3
<b>Mean</b>					444.85	2.35
<b>Overall Mean</b>					281.6	1.89

level interventions included group social skills training, labeled formal and informal friendship groups, and placement of students in structured classrooms with strong teachers. The counselors would often form small groups based on the behavioral needs of the students, then reteach the five expectations. Students at this level of intervention come to the PR room to cool off and regroup before reentering the classroom. The student had a chance to problem solve with the counselor and receive booster training so the teacher had a chance to continue to teach.

Students who did not respond to these secondary-level interventions were targeted for tertiary-level interventions. Tertiary-level interventions included individualized wraparound services, functional behavior assessments (FBAs), special education support, one-on-one counseling from a school counselor, one-on-one social skills training, a check in/check out system (Filter et al., 2007), weekly reports to parents, mentors, and outside counseling. The counselors worked with these students in the PR room.

**School 2.** All students were taught five broad expectations (i.e., be safe, be kind, be respectful, be cooperative, and be caring). The school used the counseling staff to teach weekly classes in social skills. In addition, the school used the *Character Counts* (Josephson Institute, 1996) curriculum to teach the six pillars of character (i.e., trustworthiness, respect, responsibility, fairness, caring, and citizenship). The school had a school-wide token system at the primary prevention level. Staff were trained to provide tokens when students were observed meeting expectations. Students who earned tokens put them in a container in their classroom, where weekly raffles rewarded students with small school-related items, the designation “students of the week,” and their name listed on an electronic reader board in front of the school.

A plan was constructed to increase supervision of students within common areas, the playground, and bus-loading zone. Students were brought to specialists such as teachers in physical education or music by their classroom teacher and were not allowed to return to class without their classroom teacher. Likewise, students were not allowed to be on the playground without adult supervision or to be in the halls during recess or lunchtime without a hall pass.

The secondary-level intervention consisted of social skills training for small groups. Specific groups formed in response to the individual needs of the students; these included friendship groups and instruction in character traits, social skills, and the five expectations.

Tertiary-level interventions included the use of FBAs, behavior intervention plans (BIP), more intense social skills training, check in/check out system (Filter et al., 2007), outside counseling, special contracts, and off site intensive behavioral interventions. Employment of special education services was used for some students.

**School 3.** All students were taught four broad expectations (i.e., practice safety, act responsibly, work hard, and show respect). Students were taught these behavioral expectations at the beginning of the school year and were also reminded of these expectations at the beginning of the winter and spring school

sessions. Students received slips for following the behavioral expectations. Teachers were provided with approximately five slips per week and were advised to hand them out randomly to students who followed the behavioral expectations. Students who earned slips turned them in for a weekly raffle, which rewarded students with tangible items (e.g., pencil, candy). All of the leftover slips were then saved; if at the end of the month 500 slips had been earned, the whole school received a privilege (e.g., movie and popcorn at recess).

The secondary-level intervention included the check in/check out system (Filter et al., 2007). Tertiary-level interventions included one-on-one counseling with the school counselor, one-on-one skills training, and daily/weekly reports to parents. In addition, an individualized behavior contract was developed and signed by the student, teacher, principal, and parent. If students followed the expectations within their behavior contract, they were allowed “free time” when they could go to the counseling center to play games or take a break.

## MEASURES

Two measures were used in this investigation: in-class reporting and office discipline referrals (ODR's). In-class reporting consisted of classroom teachers at all three schools collecting data on a daily basis for each student using a frequency count. Frequency counts across several behavioral categories were noted. These behavioral categories included inappropriate language, fighting, overt defiance, disruption, harassment/teasing, damage to property, and noncompliance (e.g., failure to return to task after being verbally prompted by the teacher). Operational definitions were provided for each behavior and discussed with participating teachers. Data sheets listing behavioral categories were provided to teachers once a week for 17 weeks, and collected weekly. The ODRs were entered into the SWIS monthly by counseling staff. Only ODRs that resulted from in-class behaviors were considered. Teacher return rates of the data collection forms were 85%, 75%, and 67% for School 1, School 2, and School 3, respectively.

## DATA ANALYSIS

Four analyses were conducted to address the purposes of the present investigation. First, descriptive statistics were used to detail mean average number of office discipline referrals and in-class behavior problems by intervention level (i.e., secondary and tertiary) and special education status (i.e., receiving or not receiving special education services). Follow-up measures of skewness and kurtosis were conducted to analyze normality of the variables and revealed positive skew in both cases. Office discipline referral measures of skewness and kurtosis were 4.65 ( $SE = .35$ ) and 24.91 ( $SE = .70$ ), respectively. In-class behavior problems measures of skewness and kurtosis were 1.43 ( $SE = .35$ ) and 1.46 ( $SE = .70$ ), respectively. Skewness and kurtosis statistics of greater than two times the standard error often indicate non-normal distributions (Hildebrand, 1986). Therefore, the measures of skewness and kurtosis revealed both office discipline referrals and in-class behavior problems to be non-normal distributions. Second, due to small sample size, unequal variances among groups receiving secondary- and tertiary-level interventions, and the results of skewness and kurtosis, non-

parametric independent samples tests were conducted to determine whether statistically significant differences existed between the frequency of in-class behaviors and office discipline referrals of students receiving secondary- and tertiary-level interventions. The Mann-Whitney U Test is more appropriate than the *t*-test in cases of unequal sample sizes, non-normal distributions, and unequal variances (Siegel & Castellan, 1988). Third, the Mann-Whitney U test was conducted to determine whether the differences between the frequency of in-class behaviors and office discipline referrals of students receiving special education services ( $n = 9$ ) and those not receiving such services ( $n = 36$ ) were statistically significant. Finally, a measure of correlation between the frequency of in-class behaviors and office discipline referrals was conducted. Spearman's  $\rho$  rank order non-parametric measure of correlation was considered a more appropriate statistic over the more common Pearson product-moment correlation because of the non-normal distributions of the variables.

### INTEROBSERVER AGREEMENT

Interobserver agreement was conducted by graduate students (Schools 1 and 2). Graduate students and teachers independently recorded in-class problem behavior. Frequency of problem behavior recorded was compared after each session by graduate students. Interobserver agreement was calculated by dividing the smaller number of observed behaviors by the larger number and multiplying by 100.

*School 1.* Interobserver agreement was taken weekly by a special education graduate student who was trained in data collection methods. The graduate student randomly observed one of the 12 classrooms for 1 hour once a week on Fridays. Observations occurred in each of the classrooms at least once per week. Overall, the mean interobserver agreement was 95% (range: 50% to 100%).

*School 2.* Interobserver agreement was taken weekly by another special education graduate student who was trained in data collection methods. To determine which student to observe, participating students were selected at random so that all teachers were watched at least once per student (e.g., teachers who had two identified students were observed twice, once for each student). Each observation lasted approximately 20 to 30 min. Observation time varied in length due to time of day and student tasks. Overall, the mean interobserver agreement was 83% (range: 33% to 100%).

## RESULTS

*Descriptive statistics.* The overall frequency of office discipline referrals (ODRs) ranged from 0 to 8, with a mean of 1.9 ( $SD = 2.2$ ), whereas the overall frequency of in-class behavior problems ranged from 10 (Student 9) to 3,016 (Student 45), with a mean of 281.6 ( $SD = 479.4$ ). Mean average frequency of ODRs for students receiving secondary- and tertiary-level interventions was 1.5 ( $SD = 2.0$ ) and 2.4 ( $SD = 2.3$ ), respectively. Mean average frequency of in-class behavior problems for students receiving secondary- ( $n = 25$ ) and tertiary-level ( $n = 20$ ) interventions was 151.1 ( $SD = 133.1$ ) and 444.9 ( $SD = 677.9$ ), respectively. Mean average frequency of ODRs for students receiving and not

receiving special education services was 2.4 ( $SD = 2.5$ ) and 1.8 ( $SD = 2.1$ ), respectively. Mean average frequency of in-class behavior problems for students receiving ( $n = 9$ ) and not receiving special education services ( $n = 36$ ) was 217.2 ( $SD = 188.3$ ) and 297.8 ( $SD = 528.7$ ), respectively.

*Differences between the frequency of in-class behaviors and office discipline referrals of students receiving secondary- and tertiary-level interventions.* Statistically significant differences were found between the frequency of in-class behaviors of students receiving secondary- and tertiary-level interventions ( $U [1, 44] = 145.0, p < .05$ ). As highlighted above, students receiving tertiary-level interventions had a higher number of in-class behaviors ( $M = 444.9, SD = 677.9$ ) than students receiving secondary-level interventions ( $M = 151.1, SD = 133.1$ ). Although students receiving tertiary-level interventions had a higher number of office discipline referrals ( $M = 2.4, SD = 2.3$ ) than students receiving secondary-level interventions ( $M = 1.5, SD = 2.0$ ), the difference between their frequency of office discipline referrals was not statistically significant.

*Differences between frequency of in-class behaviors and office discipline referrals of students receiving special education services and those not receiving such services.* Although students not receiving special education services ( $M = 297.8, SD = 528.7$ ) displayed higher frequency of in-class problem behaviors than their counterparts receiving special education services ( $M = 217.2, SD = 188.3$ ), the difference between their frequency of in-class problem behaviors was not statistically significant. Students receiving special education services had greater frequency of office discipline referrals ( $M = 2.4, SD = 2.3$ ) than those not receiving such services ( $M = 1.8, SD = 2.1$ ), yet the difference between the groups was not statistically significant.

*Correlation between the frequency of in-class behaviors and office discipline referrals was conducted.* A small positive relationship utilizing the Spearman's  $\rho$  measure of correlation ( $\rho = .242, p = .109$ ) was found between the frequency of in-class behaviors and office discipline referrals. This correlation was not statistically significant.

## DISCUSSION

The main finding of this investigation was that there was a weak relationship between teacher recordings of disruptive classroom behaviors and ODRs. This finding is important in that a critical aspect in the success of PBS is the determination of which students need additional behavioral support. According to Irvin et al. (2006), ODR data can be used to determine where efforts are needed to improve school safety and social climate, including classroom and non-classroom school settings. Schools that use ODR data to determine which students are in need of additional level of support may assume that ODRs are a good representation of actual classroom behavior. However, in the present investigation, the correlation between in-class behavior and ODRs raise questions as to the representativeness of ODRs for disruptive classroom behaviors. Therefore, it seems prudent to use multiple sources of data including those that are objective and direct when considering which students need additional support. This recommendation is consistent with Irvin and colleagues (2004) who recommended "triangulating" ODR

measures. This term suggests implementing other measures in addition to ODRs.

The results of this investigation show that ODRs cannot be assumed to be representative of the level of disruptive classroom behavior, at least as recorded by teachers. It is possible that each teacher had different tolerance levels and each school building had different definitions as to what behaviors constituted an office discipline referral (Tidwell et al., 2003). Repeated off-task behavior (i.e., noncompliance to teacher instructions) to some teachers may result in an ODR whereas other teachers might attempt to address the behavior in class. Additionally, ODRs could be frowned upon in some school buildings. The very nature of school-wide PBS relies upon public displays of ODR data. Therefore, it is possible that teachers may refrain from sending students to the office given that the response will be shown in the ODR data reported to staff. Many teachers may simply refer a student to the office for only the most defiant or dangerous aggressive behaviors.

It is important to point out that these schools were not novices in PBS. In fact, a school-wide PBS program was in place at all three schools. All schools received extensive training in the PBS model over a period of several years. For example, data from the *School-wide Evaluation Tool (SET)* (Todd et al., 2004) have been used to access overall success of the implementation of school-wide PBS. According to Horner et al. (2004), a score of 80% for the Expectations Taught subscale score and 80% SET Total score indicate the school-wide PBS primary prevention practices are being implemented. In this investigation, the Expectations Taught subscale score for the three schools were 100% for School 1, 70% for School 2, and 100% for School 3. The SET Total scores were 89.0%, 85.9%, and 86.0% for Schools 1, 2 and 3, respectively. Therefore, based on SET data, Schools 1 and 3 were implementing primary-level programs while School 2 was near the goal percentage for Expectations Taught and surpassed the goal for the SET Total score. It is important to point out that these scores were obtained from personnel trained to use the SET who were not associated with this research project.

A number of limitations and areas of future research are evident. First, the data obtained by the teachers on the frequency of behaviors of students are somewhat questionable for several reasons. Teachers may have been unable to record or view all the behaviors exhibited by the target students. Additionally, teachers did not return all data collection sheets even with consistent prompting. The reality is that it is frequently difficult to motivate teachers to collect ongoing data in their classrooms. Every effort was made to simplify the data collection method as much as possible; however, the return rates ranged from 67% to 87%. Finally, although interobserver agreement was recorded in two schools, it was not conducted in the third school due to scheduling difficulties with the secondary observer. Therefore, the data gathered in this investigation should be viewed as an initial attempt to answer the research question. Future research should attempt to strengthen the technical aspects of conducting direct observations of behavior in applied settings.

Second, the use of frequency counts for behaviors may not be the most appropriate measure for all behaviors. For example, noncompliance in the form of off-task behavior can be measured via a partial interval recording (Martella, Nelson, &

Marchand-Martella, 2003). However, due to the complexity of the classroom environment and the difficulty associated with recording the occurrence of multiple behaviors for multiple students, it was decided to simplify the data collection method. Teachers aided in the development of the data collection form and felt confident they could accurately record in-class behavior. Therefore, although the method of recording of behaviors is a concern, the simplicity of the method allowed teachers to make the needed recordings throughout the day.

Third, due to the category of in-class behaviors, it is not clear if all of the behaviors recorded by teachers were major and/or minor. However, the behaviors listed on the recording form were considered by teachers to be major behaviors. These behaviors were also listed as major behaviors at each of the three schools. Additionally, when a behavior did occur, teachers viewed the behavior as being significant enough to record it. Future research should consider the use of more refined recording methods that can discriminate whether behaviors were indeed major or minor. More importantly, it is important to determine if and how many of the classroom behaviors should have led to an ODR but did not do so and how many ODRs resulted from behaviors that should not have resulted in an ODR.

Finally, the schools represented in this study were from the Pacific Northwest. Therefore, the results of this study may not generalize to other students in other schools. More research is needed to determine the validity of ODRs and actual classroom behaviors across different schools and different classrooms. Additional variables that impact student behavior should be considered in future investigations. For example, the teachers' use of effective behavior supports, behavior management training level of teachers, and curriculum used are all critical variables in student behavior.

In conclusion, the data collected in the current investigation had limitations. However, every effort was made to collect ongoing behavioral data while limiting the reactivity and complexity of the data collection process. Perhaps these data should be viewed as a reflection of the correlation between ODRs and the level of in-class behaviors as *reported* by teachers rather than the correlation between ODRs and *actual levels* of in-class behavior given the reported limitations in the methods used to collect and document behavior. However, despite the reported limitations, it seems possible to conclude that the use of ODRs to determine the effects of PBS are suspect and efforts to improve objective and direct data collection procedures should take place. Applied behavior analytic procedures require the use of direct behavioral measures. Unfortunately, ODRs do not provide such measures and may represent teacher behavior as compared to student behavior.

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