Active Supervision: An Intervention to Reduce High School Tardiness

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Abstract

One proactive approach to aid in reducing disciplinary problems in schools is implementing Positive Behavior Support (PBS) strategies. To successfully implement PBS school-wide, Sugai and Horner (2002a) emphasize a multi-systems perspective, which focuses on school-wide discipline, classroom management, non-classroom settings, and individual students. According to Nelson, Smith, and Colvin (1995) approximately 50% of problem behaviors resulting in discipline referrals occur in non-classroom settings (e.g., hallway, cafeteria). One intervention commonly utilized in non-classroom settings is active supervision. The purpose of the present study was to assess the effects of active supervision on the hallway behavior (i.e., tardies) of students in a rural high school using a multiple baseline across instructional periods. The results show that active supervision decreased frequency of tardies across instructional periods. Also, each active supervision component was assessed, suggesting that all components may not be essential in obtaining student behavior change. Implications and future research are also discussed.

Currently, public schools are under increased scrutiny to improve student, classroom, school, and district outcomes (Putnam, Handler, Rey, & McCarty, 2005). Although the scrutiny includes academic as well as behavioral domains, the problems with discipline continue to increase and are considered a leading concern facing schools and educators (Putnam et al., 2005; Safran, 2006). Thus, maintaining discipline in the schools has increasingly become a greater priority (Baer, Cavalier, & Manning, 2002).

School-wide positive behavior support (PBS) systems have been implemented in many elementary and middle schools to aid in the reduction of discipline problems (Colvin, Sugai, Good, & Lee, 1997; Lewis, Sugai, & Colvin, 1998; Oswald, Safran, & Johanson, 2005; Sugai & Horner, 2002a). PBS incorporates a wide range of universal and individualized strategies developed for use with all students to achieve important social and learning outcomes while concurrently preventing problem behaviors (Sugai & Horner, 2002b). PBS is also designed to...
prevent problem behavior by altering the educational environment while also teaching appropriate alternatives (Safran & Oswald, 2003; Walker, Cheney, Stage, & Blum, 2005). According to Warren et al. (2003), school-wide supports promote a positive climate within a school by changing the focus from solely utilizing punitive approaches to using more positive approaches that acknowledge and support appropriate behavior.

To successfully implement PBS school-wide, Sugai and Horner (2002a) emphasize a multi-systems perspective requiring the integration of four levels of implementation: (a) school-wide discipline, (b) classroom management, (c) non-classroom settings, and (d) individual students. Although integrating these four levels is essential when implementing PBS school-wide, assessing the effectiveness of individual interventions implemented at each level is also critical. For example, two antecedent strategies often implemented to reduce problem behavior are active supervision and pre-correction. Sugai and Horner (2002a) define active supervision by three steps: (a) scanning, defined as examining the area for rule followers and violators; (b) moving, defined as consistently traveling around the location, especially in areas where problems are more likely to occur (e.g., groups of students); and (c) interacting, defined as initiating brief prosocial interactions with students.

Pre-correction is defined as an antecedent intervention that aims to reduce predictable problem behaviors and increase appropriate replacement behaviors through the daily review of setting specific rules prior to being released into that setting (Colvin et al., 1997). The objective of pre-correction is to cue the student to engage in a more appropriate behavior before the problem behavior ever occurs. This cue can be in the form of a verbal prompt or even a nonverbal gesture or model of the appropriate behavior. Additionally, the students are reminded of the possible reinforcers associated with appropriate behaviors (De Pry & Sugai, 2002).

De Pry and Sugai (2002) examined the effects of active supervision, pre-correction, and daily data review on student behaviors in a classroom setting. The classroom teacher was trained to use active supervision, defined as circulating around the classroom, scanning the classroom, interacting with the students, and reinforcing demonstrations of appropriate classroom behaviors. Each morning the experimenter met with the teacher to review the previous day's data. During each social studies class, an experimenter observed teacher behaviors (i.e., use of active supervision and pre-correction) and student behaviors (i.e., not academically engaged, eating in the classroom, not following directions, passing notes, out of seat, and copying another's work). The results indicated that decreases in student problem behavior occurred following the implementation of active supervision and pre-correction. Observations of teacher behaviors indicate an increased use of the intervention procedures after training; however, treatment integrity only
reached 35%. This result indicates that low levels of active supervision and pre-correction may produce moderate decreases of problem behaviors. One limitation associated with this study includes the use of multiple components, making the contribution of each component unknown. Another limitation is that the study was conducted at the end of the school year; therefore, stability and endurance of effects over time could not be determined (De Pry & Sugai, 2002).

While much attention is paid towards classroom management and individual students, few studies have focused on non-classroom settings with regard to student behavior (Colvin et al., 1997; Lewis, Colvin, & Sugai, 2000; Lewis et al., 1998). Non-classroom settings include such locations as the hallway, cafeteria, playground, and bus. These settings are typically characterized by a large number of students with few adult supervisors; they are unstructured in nature and typically characterized by an abundance of social interaction (Leff, Costigan, & Power, 2004; Sugai & Horner, 2002a). Based on these characteristics, Nelson et al.'s (1995) finding that 50% of problem behavior in the school occurs in non-classroom areas is not surprising. A few studies have examined the effects of these procedures on different non-classroom settings such as recess, lunch, and hallway transition times (Colvin et al., 1997; Lewis et al., 2000; Lewis et al., 1998; Oswald et al., 2005).

Colvin et al. (1997) assessed the effects of pre-correction and active supervision on transition behaviors (i.e., students entering the building, transitioning to the cafeteria, and leaving at the end of the school day) in an elementary school (grades kindergarten through fifth). During a 15 min training session, all teachers and assistants were trained in active supervision and pre-correction. Following training, supervisors were assigned different transition locations, were instructed to use pre-corrections before allowing students into the setting, and told to actively supervise while the transition was taking place. Following implementation of active supervision and pre-correction, problem behaviors in all transition settings decreased. With regard to student/faculty interactions, Colvin et al. (1997) found that the more supervisors interacted with the students, the less problem behaviors were observed. In the following studies, the authors extend the literature of active supervision and precorrection to different locations as well as adding additional components to the package.

In an extension of Colvin et al. (1997), Lewis et al. (1998) conducted a study assessing the effect of social skills training and contextual interventions on problem behaviors of first through fifth grade students during recess, in the cafeteria, and in the hallway. Direct interventions were designed for each setting and implemented following
social skills instruction as a means of promoting generalization of the social skills taught.

The direct interventions utilized in this study included group contingencies for lunch and recess, active supervision, and pre-correction (as defined in Colvin et al., 1997) for the transition from the cafeteria back to class. In addition, positive reinforcement was provided to rule followers (Lewis et al., 1998). Results indicated no differences between baseline and social skill instruction phases. However, during the direct intervention phases in lunch, recess, and hallway transition, problem behaviors decreased. Although changes were moderate in lunch and recess, pre-correction and active supervision had the least effect on problem behavior within the hallway transition.

In the third study of the series, Lewis et al. (2000) assessed the effects of pre-correction and active supervision on recess behavior on an elementary school playground. Results indicated that low rates of problem behaviors were observed during structured activities. During unstructured activities, an overall decrease in problem behavior was observed following intervention implementation. In addition, no changes in monitor behavior were found. However, anecdotal data indicated that monitors increased the quality of active supervision.

Oswald et al. (2005) studied the effectiveness of PBS on hallway behaviors in a rural middle school with approximately 950 students. Teachers were trained to use pre-correction, reinforcement (i.e., catch'em being good tickets delivered in the hallway) for appropriate behaviors, and active supervision. Statistical analyses indicated a 42% reduction in problems behaviors.

Similar limitations are present in each of the previous studies. One limitation is the lack of treatment integrity data; therefore, the extent to which the staff implemented the procedure is unknown. Additionally, because a great number of behaviors and a large number of students were being observed, levels of observational consistency were not obtained in all instances. Another limitation involves the use of multiple components because the contribution of each component is not known.

In three of the four studies, active supervision and pre-correction appeared to effectively reduce problem behavior in non-classroom settings. In one of the studies, the effects of active supervision and pre-correction were not as strong as the other interventions, but changes were still observed. In all four studies, however, active supervision was implemented as a package approach with pre-correction procedures. To date, no studies have assessed the effectiveness of active supervision alone. In addition, all three of the above mentioned studies were conducted in an elementary school. No studies have assessed the effectiveness of active supervision in a high school setting. Finally, no study has assessed the effects of active supervision on rates of tardiness (tardies). Therefore, the
purpose of the present study was to assess the effects of active supervision on the hallway behavior of students in a rural high school. Specifically, the current investigation assessed the effects of active supervision during problematic transition times on the number of discipline referrals for tardiness.

**Method**

*Participants and Setting*

All teachers (i.e., 36) from a high school in a rural high school in the southeast participated. Approximately 84% of the teachers were Caucasian and 16% were African American while 67% were female and 33% were male. The school served approximately 450 students; approximately 53% of the students were Caucasian and 47% were African American. Free and Reduced lunch was tallied as an indicator of socioeconomic status. Fifty-eight percent qualified for free lunch while 11% qualified for reduced lunch. The high school had two buildings. The first building was constructed in an "L" shape with 2 floors. The other building was a one-story building that consisted of one hallway. Approximately 24 teachers were assigned in the first building while 12 were assigned to the second building.

The school was selected based upon a request from the principal to aid in the reduction of office referrals. The authors provided services to the district, which included 5 schools ranging from Kindergarten to High School. An agreement between the principal and the investigators was established to examine the office referrals. Analyses of the discipline infractions conducted following the first semester of the school year indicated that 38% of all discipline referrals were a result of students' tardiness to class. No differences in student tardy behavior were observed across the four grades (i.e., grades 9-12). Based upon the results of the data analysis and discussion with administrative staff, tardies were selected as the target for intervention. The three instructional periods of the day with the highest number of tardies were targeted for intervention. The transitional periods were consistent across times in that all students transitioned at the same time and all teachers participated in every transition regardless of their individual schedule.

*Procedure*

A four step procedure was used to (a) obtain data through office discipline referrals on classroom tardiness for three instructional periods; (b) train all faculty on active supervision, (c) obtain performance on active supervision, and (d) evaluate the effects of active supervision on tardiness.
Dependent Variable

Office discipline referrals for tardiness served as the dependent measure. Office discipline referrals have been widely used by schools to evaluate students' behaviors and have been found not only to be sensitive measures of the effects of intervention, but to be valid indicators of intervention effectiveness (Irvin, Tobin, Sprague, Sugai, & Vincent, 2004). The disciplinary code of conduct for the school district defined tardiness as any student not present in the classroom or having at least one foot across the doorway threshold when the tardy bell stops ringing. Students received tardy discipline referrals upon three instances of arriving to class late. Once a student acquires three tardies, an office discipline referral is written which would result in a consequence outlined by the discipline code of conduct (e.g., morning or afternoon detention). Severity of consequences intensified for repeat offenders. For instance, if a student received a second office discipline referral (i.e., six tardies to class), he or she may be receive a full day of in school suspension as a consequence. The process outlined in the disciplinary code of conduct remained in effect throughout the duration of the study. Each data point represents a total week of tardy referrals for the entire educational staff.

Intervention

Baseline. Prior to intervention implementation, office referrals for tardiness were assessed and deemed either to be stable or to have an increasing trend in baseline. Prior to staff training, observers were present during hallway transitions for baseline and intervention for the two periods that interventions were implemented.

Active Supervision. The six components of active supervision were: (a) arriving at designated post on-time, (b) remaining in post area throughout the entire transition period, (c) moving towards groups of congregating students in post area, (d) physically escorting students throughout the entire transition area, (e) scanning the transition area by moving head side to side to look over the designated transition area to be supervised, and (f) interacting with students using brief nonverbal gestures (i.e., smiling, prompting) throughout the transition period.

A teacher arriving at his or her designated post on-time was defined as: the teacher present at his or her post within 20 seconds after the bell. The teacher's presence at his or her post was defined as being present within the post area for the duration of the transition time and was recorded if the teacher was present. Teachers moving towards congregating groups of students was defined as moving into proximity of student groups (i.e., within 2 feet) without leaving designated post area. Escorting was defined as teachers' accompanying or guiding students throughout the transition
area and was recorded if the behavior occurred. **Scanning** was defined as teachers turning their heads back and forth to look over the transition area to be supervised and was recorded if the behavior occurred. **Interacting** was defined as brief nonverbal interactions with the students in the form of gesturing, smiling, or prompting. Verbal interactions were not coded as interacting.

**Control.** During the control transition, active supervision was not implemented. Observers were present throughout the control phase in an attempt to reduce observer reactivity. Data were collected as in the baseline and active supervision.

Consequences for tardy behavior were consistent throughout all conditions. Students received a tardy discipline referral for coming to class late three times. Students received consequences according to the student discipline code of conduct. As mentioned, the severity of consequences intensified for repeat offenders.

**Design**

A multiple baseline across two instructional periods design with one instructional period serving as a control was used. The data for the instructional periods were analyzed (i.e., assessing trend and stability) during each baseline to determine in which period active supervision should be implemented first.

**Data Analysis**

Office referrals for tardiness were graphed and visually analyzed. A within-periods comparison of each phase was conducted to evaluate each intervention phase. Each intervention remained in place until stability or an undesirable trend was observed for tardiness.

**Teacher and Experimenter Training**

All teachers were trained in the components of active supervision during a 30 minute training conducted at an after school faculty meeting (Sugai & Horner, 2002a). The training included a PowerPoint presentation of the rationale for the intervention (i.e., to attempt to reduce tardiness), the steps of Active Supervision, and the procedures of intervention. The experimenters gave verbal examples as well as non-examples of each component of active supervision. In addition, the trainers modeled each component of active supervision and conducted role-plays to demonstrate active supervision to the teachers. The teachers were instructed that they would be observed during transitional periods for the integrity of implementation. In addition, the experimenters instructed the teachers that they would get verbal and written feedback of the observation. A question and answer session followed the modeling and role-playing session.
Following training, experimenters (i.e., graduate students, other district supervisory personnel) were given a copy of the procedural integrity form along with operational definitions of the components of active supervision. The primary investigators reviewed the form. Accompanied by one of the primary investigators, the experimenters were then given the opportunity to practice using the form by observing transition times not included in the study. Practice sessions were conducted until the experimenters obtained interobserver agreement with one of the primary investigator of 90% or greater.

Procedural Integrity

Procedural integrity checks were conducted during transitions in which active supervision was implemented (i.e., following 3rd and 5th period classes). All components of active supervision were measured during each integrity check. A stratified random sampling plan was used to conduct the observations. For example, a hallway of the school was chosen first. Then, teachers were randomly selected for observation (i.e., names were selected from a hat) until all teachers had been observed across both transition periods. The process began again once all teachers had been selected. Four teachers per observer were selected and the names were recorded on the integrity data sheet in the order selected to assess order effects. Two observers assessed four teachers each observation; therefore, eight teachers out of the 36 were observed daily.

The observers stood in the hallway in view of the four teachers to be observed during the transition. When the bell finished ringing for class to be dismissed, the observer started the stopwatch to assess On-Time. After the 20s, a momentary time sampling was used in 1 minute intervals for the next 4 minutes. Each teacher previously selected was observed for one minute using a momentary time sampling procedure. The observer looked up at the beginning of the minute and observed all variables (i.e., at post, moving, scanning, and interacting). Then, the next observation occurred at the next minute interval.

Following each transition time, teachers were provided with oral and written feedback regarding their performance. Specifically, each teacher was given a hard copy of the data collected on their own behavior during the transition. The experimenters then briefly reviewed the data with each teacher. In the event that teachers had questions or concerns regarding their performance, individual follow-up sessions were scheduled. Minimal interference with classroom instruction or management occurred.

Interobserver agreement (IOA)

Throughout the baseline and intervention for all transitions, tardy discipline referral data were collected. IOA was obtained for 100%
of all office discipline referrals for tardies. IOA was independently calculated for each phase of the study. IOA was calculated using agreements divided by agreements plus disagreements multiplied by 100%. Agreements were defined as both observers having counted the same number of referrals for tardiness during a specified week. Disagreements were defined as both observers did not record the same number of referrals for tardiness during a specified week. IOA was 100% as the referrals for tardiness were permanent product data.

Results

The number of referrals for tardiness per week across transition following third, fourth, and fifth period is shown in Figure 1. As mentioned, active supervision was implemented during the transitions following third and fifth periods and the transition following fourth period served as the control.

During the 3rd period transition, the top graph, the baseline was somewhat variable ($M = 9$, range: 2 to 16) with a slight decreasing trend. The third week data point decrease may have been due to a holiday. Following active supervision implemented in the fifth week, the number of referrals for tardiness ($M = 2$, range: 0 to 4) decreased and had more stability than baseline. In addition, the percentage of non-overlapping data points (PND) between baseline and intervention was 20%.

During the 5th period transition, the middle graph, slight variability was initially observed during baseline; however, baseline ended with an increasing trend ($M = 7$, range: 3 to 11). Again, the decrease in the third week may have been due to a school holiday. After implementation of active supervision in the ninth week, less variability and a decrease in the number of referrals for tardiness across weeks ($M = 1$, range: 0 to 3) were observed. Again, the PND was 20% from baseline to intervention.

The 4th period, the bottom graph, served as a control throughout the study. The first six data points demonstrated stability but significant variability was present throughout the remaining weeks ($M = 8$, range: 3 to 18). It is important to note that the variability did not coincide with either intervention implementation but variability was observed after one week of intervention in the 3rd period.

Treatment Integrity

Table 1 represents the integrity for baseline and intervention across 3rd and 5th periods. When assessing for integrity of the intervention, third period teachers had an overall integrity of 46% in baseline and 64% during intervention. An individual component analysis for third period showed, On-Time was 0% and 63%, At Post was 47% and 75%, Moving was 63% and 93%, Scanning was 75% and 68%, Escorting was 27% and
Figure 1. Office referrals for tardies across instructional periods.
### Table 1
Mean percentages for active supervision

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<th>Period</th>
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<td></td>
<td>Total Integrity</td>
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<td>5th</td>
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<td></td>
<td>On-Time</td>
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<td>At-Post</td>
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46%, and \textit{Interacting} was 63% and 80% for baseline and intervention, respectively. The fifth period teachers demonstrated an overall integrity of 52% in baseline and 61% during intervention. For fifth period teachers, their integrity for each component was \textit{On-Time} 40% and 33%, \textit{At Post} 53% and 74%, \textit{Moving} 85% and 80%, \textit{Scanning} 50% and 50%, \textit{Escorting} 46% and 69%, and \textit{Interacting} 40% and 60% for baseline and intervention, respectively.

\textbf{Discussion}

The current study added to the literature in several ways. First, the previous research studies (Colvin et al., 1997; Lewis et al., 2000; Lewis et al., 1998) have been conducted in elementary grades. Thus, it was unknown until the present study as to whether similar results would be observed within a high school setting. Second, previous researchers (Colvin et al., 1997; Lewis et al., 2000; Lewis et al., 1998) have utilized other interventions, such as pre-correction, in addition to active supervision. Although using treatment packages are common practice, analyzing the individual components in order to assess whether or not all parts of the package are beneficial is critical. The present study examined the effects of active supervision alone. Finally, the current study observed tardies as the dependent measures, which has not been exclusively or previously examined.

Results from the current study provide preliminary evidence to suggest that active supervision may be an effective antecedent intervention to reduce high school student tardiness to class following hallway transitions. Both third and fifth periods showed decreases in tardies when Active Supervision was implemented. The fourth period demonstrated some interesting results in that after one week of implementing Active Supervision in the third period, tardies became more variable and had a somewhat higher frequency. One possible explanation is that the intervention restricted opportunities for social interaction, thereby creating a state of deprivation (an establishing operation) for social interactions leading to increases in tardiness during other class periods. Another possibility may be that the consequences students received following tardy behavior were insufficiently aversive. Students had to accumulate three tardy referrals before an office discipline referral resulted in a consequence that may or may not have been aversive to the student.

Also the analysis of the procedural integrity data yielded interesting findings. For instance, no differences, decreases or discrepant data for \textit{On-Time}, \textit{Moving}, and \textit{Scanning} were observed. These findings might suggest that these particular components may not be critical for student behavior change. On the contrary, being at one's \textit{Post}, \textit{Escorting}, and \textit{Interacting}, may have been the salient features of Active Supervision for
this setting. Components of active supervision that warrant further attention by researchers may be: (a) teachers being present at their designated posts, (b) escorting students to their classes, and (c) having brief interactions with students in the hallway. Also worthy of note is that the level of integrity necessary to obtain these results or any other results is still unknown.

Several limitations were present in this study. One limitation of this study is that active supervision involves several components. It is unclear which components may have resulted in the reduction in tardies to class. Future research is necessary to assess the necessity of specific components of active supervision. Specifically, effects of each component of active supervision could be examined by counterbalancing each element to further investigate which components affect the target behaviors.

Another limitation is that the current study was implemented within a small rural high school, which limits external validity. Researchers should attempt to replicate this study in high schools in different geographical locations. In addition, future researchers should consider analyzing active supervision in other non-classroom settings (e.g., cafeteria, bus) across all age ranges. Also, the design of the current study did not have complete control nor was it as stringent as other designs. Finally, treatment acceptability was not directly assessed during the study; therefore, no direct conclusions can be drawn about teacher's perceptions of the social validity of the intervention. It might be beneficial to include such measures of social validity in future studies assessing active supervision.

The present study examined the effects of active supervision within a rural high school setting. Results of this study suggest that implementing a simple, antecedent intervention like active supervision may effectively reduce a high frequency, low intensity behavior like tardiness, within a rural high school setting.

Acknowledgement

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References


