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The Effects of Pre-Correction and Active Supervision on the Recess Behavior of Elementary Students

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Abstract

Increasing a school's capacity to effectively deal with challenging behavior on a system-wide basis has increasingly been advocated as a promising practice. However, there is limited empirical support for large scale interventions focusing on specific school settings. The purpose of this study was to examine the effectiveness of implementing a pre-correction and active supervision strategy on the rate of problem behavior observed during recess on an elementary school playground. The study was conducted within the context of a larger school-wide behavioral support project. Using a multiple baseline across groups design, results indicated that the intervention reduced rates of problem behavior exhibited by elementary students, but was not effective in increasing rates of active supervision on the part of playground monitors. Implications for practical applications and research replications are discussed.

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A widely held belief and practice in elementary school programs is that recess provides an essential component of a child's educational and developmental needs (Wardle, 1990). Nevertheless, there is a growing concern among educators and parents regarding three trends. First, there is the concern of safety (Hendricks, 1993; Thompson, 1991; Wardle, 1990). For example, Thompson (1991) reported that more than 170,000 children are injured yearly on playgrounds in America. Directly related to safety is the second concern, the inadequacy of appropriate supervision (Colvin & Lowe, 1986). Finally, educators are increasingly concerned that children do not come to school prepared to engage in appropriate peer interactions during recess due to a lack of social skills (Bain & Farris, 1991; Cosden, Iannaccone, & Wienke, 1990).

In an effort to ensure student safety and well being, active supervision

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has been singled out as one of the most essential features (Colvin & Lowe, 1986; Thompson, 1991; Wallach, 1988). Active supervision ensures that (a) children utilize the playground in a safe and orderly manner, (b) dangerous events or settings are identified in a timely manner, and (c) students play appropriately so that educational and developmental goals are more likely to be met (Colvin & Lowe, 1986; Thompson, 1991; Wallach, 1988). A recent trend, however, in elementary schools has been to shift the role of recess supervision from certified staff to classified staff (Nelson, Smith, & Colvin, 1995). One consequence of this trend is that the responsibility for supervision has been given to staff members with less formal training in instruction and managing student behavior. This may have the overall effect of weakening the quality of recess supervision.

Supervision alone will not reduce the level of problem behaviors displayed during recess. Without necessary prerequisite social skills students are unable to comply with playground rules and adult directions. Both special and general educators indicate that increasingly larger numbers of students need social skill training (Bain & Farris, 1991; Fuller, Lewis, & Sugai, 1995; Sugai & Lewis, 1996). Surveys indicate that the problem is pervasive enough that educators feel all students should have some exposure to social skill instruction (Fuller et al., 1995). In addition, school-wide social skill training programs have recently been advocated as a promising practice to reduce overall levels of problem behavior in schools and to prevent more challenging behavior patterns among individual students (Lewis, Chard, & Scott, 1994; Lewis, Sugai, & Colvin, 1996; Sugai & Horner, 1994; Sugai & Lewis, 1996).

While there is a large data-base to show that social skill instruction can increase the level of prosocial behaviors (Sugai & Lewis, 1996), the difficulty remains in promoting generalized responding beyond the training setting (Lewis et al., 1996). One promising strategy to promote generalized responding is the use of pre-correction and active supervision following social skill instruction (Colvin & Sugai, 1989; Colvin, Sugai, & Patching, 1993; Cotton, 1993; Lewis, 1992). Pre-correction strategies are described as antecedent manipulations designed to prevent the occurrence of predictable problem behavior and facilitate the occurrence of more appropriate replacement behavior (e.g., reminders, prompts, rehearsals prior to problematic times or settings). Active supervision is defined as those behaviors displayed by supervisors designed to encourage more appropriate student behavior and to discourage rule violations (e.g., moving around, scanning, interacting with the students, reinforcing displays of targeted social skills).

Colvin, Sugai, Good, and Lee (1997) conducted a study to examine the effects of pre-correction and active supervision on the transition behavior of students entering the school building, going to the cafeteria and leaving the classrooms at the end of the school day. The results showed a substantial reduction in problem behavior for each transition setting. In

addition, a correlation of -0.83 was found between incidences of problem behavior and number of interactions between supervising staff and students. The purpose of this study was to examine the effectiveness of similar procedures on problem behaviors displayed during recess. Specifically, this study examined the effects of three school-wide strategies; (a) review of key recess social skills, (b) pre-corrections prompting the use of key social skills, and (c) active playground supervision, on the rate of problem behaviors exhibited by elementary students during recess.

Method

Procedures and Design

Prior to conducting the study, the school was involved in an on-going project to improve student behavior through-out the school building (Colvin, Kammeneui, & Sugai, 1993; Colvin et al., 1997). A "discipline team" was formed to analyze problem spots and develop teaching interventions to meet student and staff needs. While the administrator supported the team's work, he was not an active participant during the present study. As part of this process, classroom teachers taught critical social skills related to school wide rules (e.g., "respect others:" use preferred names, no name calling), however, they were not using pre-correction statements prior to releasing students to recess nor were playground monitors encouraged or instructed to use active supervision on the playground.

Procedures targeted in the present study were implemented through three phases. First, teachers reviewed school rules and related social skills specific to the playground. Second, playground monitors reviewed school rules and supervision expectations. Finally, pre-corrections and active supervision were introduced across three recess periods at one week intervals.

During phase one and two, classroom teachers reviewed school rules and related social skills using examples taken from the playground (e.g., "manage self:" use playground equipment appropriately) for one school week. Rules and skills were reviewed the week prior to implementation of pre-corrections and active supervision. While teachers reviewed social skills with students, one member of the discipline team reviewed rules and supervision expectations with each of the three educational assistants who served as playground monitors. Classroom and monitor reviews were staggered by one week intervals across three student groupings and three playground monitors.

Once teachers reviewed all school rules and provided playground based examples, pre-corrections and active supervision were implemented during the first recess. Prior to releasing students for recess, classroom teachers briefly reviewed and prompted the use of school rules and key playground behaviors (i.e., pre-correction). Playground monitors

were then prompted by a member of the discipline team to engage in active supervision of the students present during their recess period. During recess, the playground monitors were instructed to increase (a) rates of reinforcing rule compliance, (b) error corrections for rule violation (e.g., remind student of the rule), and (c) physical movement and visual scanning of the playground.

A multiple baseline design (Tawney & Gast, 1984) across three target recess periods was used to examine intervention effects. The three targeted recess periods consisted of the following groups of students; fifth grade students were present during recess one, fourth grade students during recess two, and first through third grade students were present during recess three. One of three playground monitors was also present during each recess period. Following seven days of baseline, intervention began during recess one. Intervention was implemented during recess two and three following ten and sixteen days of baseline.

Participants and Setting

The participants were all students enrolled in an elementary school serving kindergarten through fifth grade. The school population was comprised of 475 students and 42 staff (24 certified teachers, 18 classified staff members, and building principal). The majority of student enrollment were characterized as white, non-Hispanic. A small proportion of Hispanic students represented the largest minority group (less than 5%). The school neighborhood was characterized as working class, and located in a suburban/rural area. Forty-four percent of the students enrolled qualified for free and reduced fee lunch.

Independent Variable

The independent variable consisted of an intervention package comprised of two major components: (a) pre-corrections and (b) active supervision.

Pre-correction. The pre-correction component built upon prior social skill instruction developed by the school discipline team and taught school-wide. The first step of the school-wide social skill program consisted of identifying problem behaviors exhibited by the students at recess (Lewis, Sugai, & Colvin, in press). The second step consisted of identifying expected or replacement responses (i.e., social skills) for the problem behaviors. The printed rules and expectations for recess were targeted for review with students including the following: Students were expected to (a) keep their hands and feet to themselves, (b) use equipment appropriately, (c) follow the procedures for joining in games (wait in line or ask), (d) use appropriate language, and (e) problem-solve when conflicts arise. Finally, students were pre-corrected regarding rules and expectations prior to their release to the playground for recess as de-

scribed above. To insure implementation fidelity, a member of the discipline team sent a student to each classroom before recess with a written reminder to implement pre-corrections.

Active supervision. The second component consisted of training playground monitors in the critical features of active supervision. The training was conducted in one fifteen minute meeting and during a ten minute follow-up/review meeting. Three monitor behaviors were pinpointed: (a) "move around," avoid standing in one place, (b) "look around" by scanning all areas, especially those areas away from them, and (c) "interact with students" by greeting students, talking with students about items/topics of interest, providing praise for students who follow rules, and prompting (positively correcting) students who might be violating rules. Playground monitors also were asked to avoid lengthy or sustained conversations with adults and to interact with as many different students as possible during recess. The discipline team provided reminders of these active supervision behaviors at each staff meeting during the course of the study following the start of intervention in recess three.

Dependent Variables

Data were collected throughout the study on the rate of student and playground monitor behavior, each are described in detail below. While frequency counts on the use of appropriate social skills would have given a better index of the overall effectiveness of the school-wide program and the present investigation, problem behaviors were targeted for data collection for three reasons: First, many of the previously taught skills focused on peer interaction behavior (e.g., working out a problem) that would have been extremely difficult to count. Second, many of the targeted skills were not discrete behaviors with equal duration. For example, if a child was using a swing appropriately the entire recess period, a frequency count would not have reflected improvement (i.e., simply one count of "using equipment appropriately" on the data collection instrument). Finally given the large number of students and behaviors to count, the most simplistic, yet sensitive data collection system was desirable to insure reliability.

Data were collected using a paper and pencil format whereby data collectors recorded frequencies of targeted behaviors. Data were collected throughout the fifteen minute recess period and then converted into rate of behavior per minute. Six graduate students in special education served as data collectors. Following training using video tapes, data collectors practiced collecting data during non-target recess periods with the first author. Data collectors were not informed of the overall purpose of the study or when intervention would begin. Once an interobserver agreement level of 80% or better was attained, observers began data collection. Reliability checks were taken throughout the study by randomly

assigning two observers to record data simultaneously during target recesses.

Student behavior. Targeted student behaviors and examples are presented in Table 1. Observers divided each recess in half and observed a structured activity (i.e., one with clearly defined rules such as four square) and an unstructured activity (i.e., one without rules such as swinging or playing on the jungle gym). Order of structured and unstructured periods was randomly determined.

Playground monitor behavior. To judge the extent to which staff members who were responsible for recess supervision engaged in active and non-active supervision, data were collected on monitor behaviors (see Table 2).

Behavior	*Examples*
Hands on others	Hitting, pushing, kicking -excludes any *socially appropriate touch* such as holding hands and walking along with an arm around someone, and incidental contact that is part of a game such as two players colliding in basketball when jumping for the ball.
Misuse of equipment	Throwing swings into peers, jumping off top of play structure
Language/Name calling	Insults, put downs, profanities, slurs, name calling and obscenities.
Threats	Verbal threats such as "I'll get you," "I am going to smack you in the side of your head" or physical threats such as shaking a fist in the face of a student, kicks at a person without contact.
Interfere with games	The student disrupts the game such as taking the ball, jumps into line.
Argue	Students engage in discussion or questions calls or results for more than 10 seconds and disrupts play.

Table 1. Student Behaviors Targeted During Data Collection with Examples.

Behavior	*Definition*	*Category*
Move + 15'	Monitor moved beyond fifteen feet from a previous spot	Active
Interact with student	Monitor speaks or gestures to a student or groups of students within 10'	Active
Interact with adult	Supervisor speaks or gestures to another adult during recess	Non-Active
Whistle/gesture	Whistle blows other than end of recess period or gestures to students more than 10 'away	Non-Active

Table 2. Playground Moniter Supervision Behavior, Definitions, and Category.

Results

Data were graphed and analyzed visually for significant changes across level, trend, and variability within and between phase conditions (Tawney & Gast, 1984). Student data were collapsed and plotted daily using a single rate point of problem behavior for unstructured and structured activities. Monitor data were plotted by rate of targeted behaviors that characterize active supervision (i.e., move, interact with students) and non-active supervision behaviors (i.e., whistle/gesture, interact with adults).

Student Behavior

Structured activities. Overall data patterns indicate that during structured activities, relatively low rates of problem behavior were observed. Across all three recesses, no significant trend or level changes were observed (see Figure 1).

Unstructured activities. During unstructured activities, data indicate an overall decrease in rate of problem behavior following intervention (see Figure 1). Following baseline, level changes are found in each recess. A change in trend is also evident during recess two. While baseline trends for recess one and three indicate decreasing trends, the overall level and variability were reduced during intervention. A slight carryover effect is evident in recess period three, following intervention implementation during recess period two. Missing data indicate that recess was not held.

Monitor Behavior

Data indicate no clear effects on monitor behavior as a function of the intervention (see Figure 2). There are slight increases in individual days of active supervision for monitors one and two, but no overall level or trend changes are observed. A reverse in trend in active supervision is observed pre/post intervention for monitor three, but no overall level effect is noted. Missing data indicate that the target monitor was not present during the recess. Data were not collected on substitute monitors.

Reliability

Interobserver agreement checks were conducted across 30% of the student and 13% of the monitor observations. Interobserver agreement was calculated by dividing the smaller rate by the larger rate recorded between two data collectors and multiplying by 100 (Kazdin, 1982). Average agreement level across student observations was 82% (range 60-100%, SD = 11%) and 83% (range 69-100%, SD = 11.6%) across monitor observations.

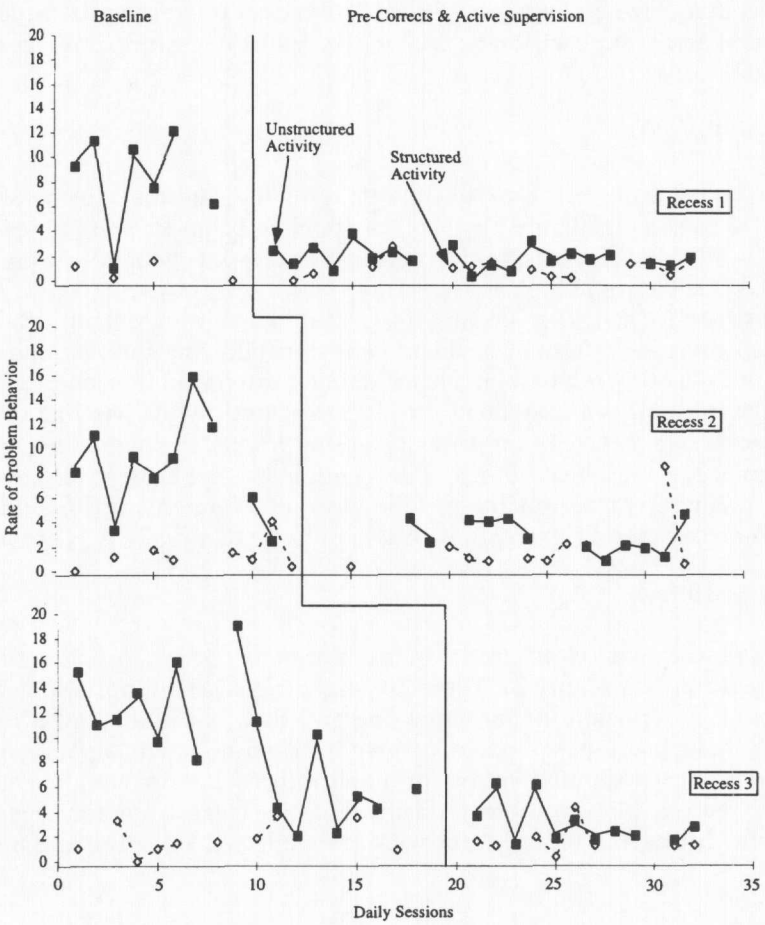

Figure 1. Rate of problem behavior displayed by students across recess periods.

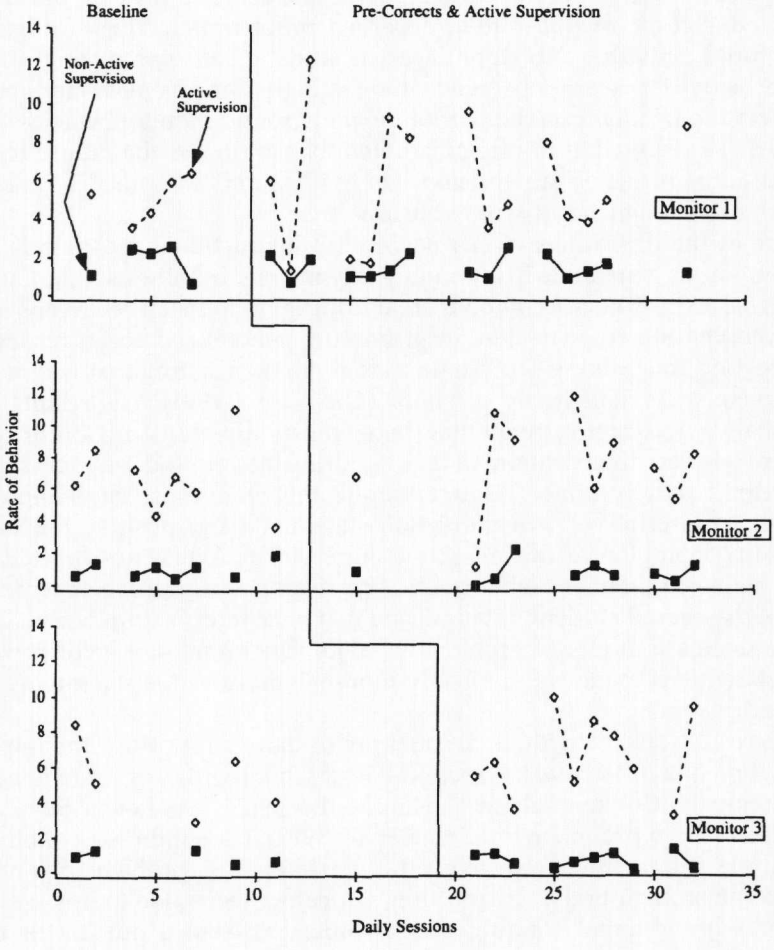

Figure 2. Rate of active and non-active supervision displayed by monitors across recess periods.

Discussion

The purpose of this study was to examine the effectiveness of social skill reviews, pre-corrections, and active playground supervision, on the rate of problem behaviors exhibited by elementary students across three independent recess periods. The student data indicate that the intervention reduced the overall rate of observed problem behavior during unstructured activities. No differences in student behavior during structured activities were observed. Interestingly, an increase in active supervision behavior on the part of the playground monitors was not observed. The reduction in rate of problem behavior and the failure to increase rates of active supervision has implications for practice and research each of which is discussed below.

One of the difficulties of any social skill instructional program is the promotion of generalized responding beyond the training setting (Sugai & Lewis, 1996). The present data are encouraging in that a relatively simple intervention was effective in promoting generalized social responding beyond the training setting, the classroom, to a setting that is typically replete with challenging behavior (Thompson, 1991). The results are especially encouraging given that there was no direct instruction or contingency-based intervention in place during recess and impacted unstructured activity time. The exception to this were those students who received prescriptive error correction statements and positive feedback regarding compliance during active supervision. While no direct data were collected on the number of error correction and positive statements made, the overall student data indicate that once intervention began, due to the decrease in rate of problem behavior, the number of error correction statements made was probably minimal and positive statements increased.

The results also provide additional preliminary support for the implementation of a pro-active instruction-based school-wide system of behavioral support (Colvin et al., 1993; Knoff & Batsche, 1995; Lewis, Sugai, & Colvin, 1996, in press; Taylor-Green et al., 1997). Data indicate a relatively simple intervention effectively reduced rates of problem behavior across the student body. In addition, educators were able to impact behavior with minimal training and technical assistance outside of the school setting.

Data indicate that staggering review sessions and prompts with the playground monitors across the three recess periods did not have an effect on their rates of active supervision. Reaction to the novelty and being observed may have contributed to the failure to observe differences in the monitors' behavior. All staff were aware of the school-wide system and knew that they would be participating in a specific playground intervention. The awareness of the intervention combined with the presence of data collectors may have caused the low levels of non-active supervision and corresponding high levels of active supervision observed

during baseline. From a practical standpoint, observers anecdotally reported that monitors increased the "quality" of their active supervision. Raw and anecdotal data indicate that monitors increased their overall level of moving around the playground. Increased movement may have led to more interactions with students, thereby setting the occasion to provide increased rates of positive comments. Reviewing expectations (e.g., move around, do not engage other adults) and providing the language of the related social skills for use in monitor feedback may also have contributed to the observed corollary decreases in student behavior.

Given the scope of the present study, working with all students and multiple adults within an applied setting, the data do have limitations. First, the combination of intervention strategies make it impossible to make causal statements about the effectiveness of any one procedure. While from an applied stand point this may not be as important, ultimately, the most parsimonious yet effective intervention is desirable (Kauffman, 1996). A second limitation is the reduction in rates of student behavior during baseline periods three following intervention in recess two. While each recess represented a different grouping of students and monitors, it is impossible to prevent students, monitors, and teachers from talking with one another, particularly following the introduction of a new intervention. This school-wide "awareness" may have contributed to the observed decrease. Finally, given the large number of students to observe, reliable data collection was difficult. While the mean percent interobserver agreement was above minimal limits, the range and variation should be kept in mind when reviewing results.

Bearing in mind the limitations of the data, this study contributes to the emerging field of school-wide behavioral support in several ways. The present study replicated previously examined pre-correction and active supervision intervention used during transitions (Colvin et al., 1997) to a free play setting previously un-researched. The present study also adds to the growing knowledge base of effective features of school-wide programs on the reduction of challenging behavior (Mayer, 1995; Sugai & Horner, 1994). The overall observed low rates of problem behavior during structured activities also presents a potentially important piece of information with respect to intervention development. For example, is it that by providing structure during free play, similar to a structured curriculum in the classroom, students are less likely to engage in problem behavior? Or is it that students who typically display low rates of problem behavior are more likely to engage in games with a clear set of rules and expectations? While more research is clearly warranted, the present and previous research points to the effectiveness of using pre-corrections and active supervision as an effective strategy to promote setting specific pro-social behavior within the context of school-wide behavior support systems.

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