Contingency Management in an Athletic Study Hall

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Abstract

A contingency management system, cooperatively developed in NTSU's School of Community Service and the Athletic Department was implemented to increase the amount of time student athletes (with GPAs below 2.0) spent studying. Repeated reversals were used to demonstrate effectiveness of the contingencies used—i.e., students' on-task study behavior (looking at books, underlining or making notes, memorizing with book open) resulted in early release from study hall. Data takers observed individual students every 7 seconds and those meeting a 90% on-task criterion left study hall 30 minutes early. Data are included that demonstrate the effectiveness of this early-release contingency on proportion of time spent studying. Increasing numbers of students were released on-task over time. Additionally, data were collected on numbers choosing to remain in study hall after given permission to leave.

Contingency Management in an Athletic Study Hall

Recent nationwide publicity (e.g., Bowen, 1985; Bogan, 1986) has spotlighted the plight of student athletes who are "used" by universities and turned out after 4 or 5 years with only a few credits toward a degree. One solution to this problem is to raise requirements for eligibility (NCAA, 1983). The effect of this is to limit university athletics to educationally advantaged students, and to restrict opportunities for minority athletes (Advanced Technology, 1984). Social ramifications of such policies suggest alternative solutions should be sought.

One alternative is to provide the educational environment that enables the disadvantaged student to successfully participate in college-level academics. A recent example of such a program at the University of Michigan was reported by Walter (1985).

At North Texas State University, the Athletics Department and the School

of Community Service have cooperated in developing a multifaceted approach to aid educationally disadvantaged students to achieve academically.

Like most universities, NTSU has long provided a study hall for student athletes, where (as in most study halls) very little studying has taken place. In the fall of 1984, when the Center for Behavioral Studies began working with the Athletic Department, a contingency management system was implemented to increase the amount of time the athletes spent studying. Repeated reversals were used to demonstrate the effectiveness of the contingencies implemented.

Method

Participants

Study hall participants were scholarship athletes required to attend study hall from 7:30 to 9:30 p.m., four days a week (Monday through Thursday). These athletes were primarily upperclass students whose grade point average (GPA) had fallen below 2.0. The number of athletes attending ranged from 15 to 40 nightly. At any given time during sessions, several students were with tutors in other rooms. The students attending were mostly but not exclusively male.

Setting and Apparatus

The athletes sat at classroom desks arranged in rows. Data takers sat on either end of a table against the front wall. Data takers used a pre-prepared data sheet marked off in squares. Each row of squares represented observations of a specific individual, the first row representing the first student in the first row; the second row representing the second student in the first row, etc.

A tape recorder was placed midway between the data takers on days that reliability data were gathered and next to the data taker on other days. A low-volume tone sounded at an average of every 7 seconds, signaling data takers to observe the behavior of the next individual present.

Data Collection and Reliability

Direct observations were conducted on study behavior of student athletes. Students were defined as studying on-task when they were looking at school books or papers, underlining or making notes or (as occasionally happened) looking blankly out while moving lips (apparently memorizing) with book open. Eyes closed, out of seat, wearing earphones, blank stares, doodling, talking to anyone were all observed as off-task. Students who left the room with a tutor were counted on-task; those who left for any other reason, off-task.

The data takers observed each athlete in turn when the tone sounded, proceeding with observations until the student in the last seat was observed. Then they began again and repeated observations. Each student was observed a minimum of 20 times and up to 50 times.

The data takers each semester were given instructions and practice trials before data collection began. Reliability was never below 90% and usually above 95%. During the first semester, reliability data were obtained almost continuously. During the second semester, reliability data were collected for about half of the total sessions. During the third semester, reliability data were collected only at the beginning of the semester and on two other occasions during intervention.

Experimental Design

Over a period of three semesters a classical reversal design (Baer, Wolf, & Risley, 1968) was used repeatedly to assess the effects of an early release contingency on the student athletes' study behavior.

Baseline: Under baseline or "no contingency" conditions, the students attended study hall for 2 hours per session. A study hall monitor collected data on attendance, assigned tutors, and requested quiet when necessary. Data takers collected data for the first 1-1/2 hours every evening and occasionally during the last half hour. Data points were always calculated on the first 1-1/2 hours of data.

Intervention: During intervention or "contingency" phases of the study, students' on-task study behavior was consequated by early release from study hall. Each student who arrived on time and met on-task criterion for the first 1-1/2 hours of study hall was told individually he/she was free to leave. Attempts were always made to release first those who had arrived first. All were released within 5 minutes of 9:00, the end of the 1-1/2 hour period. The on-task criterion was considered met when 90% or more observations of a student yielded on-task data.

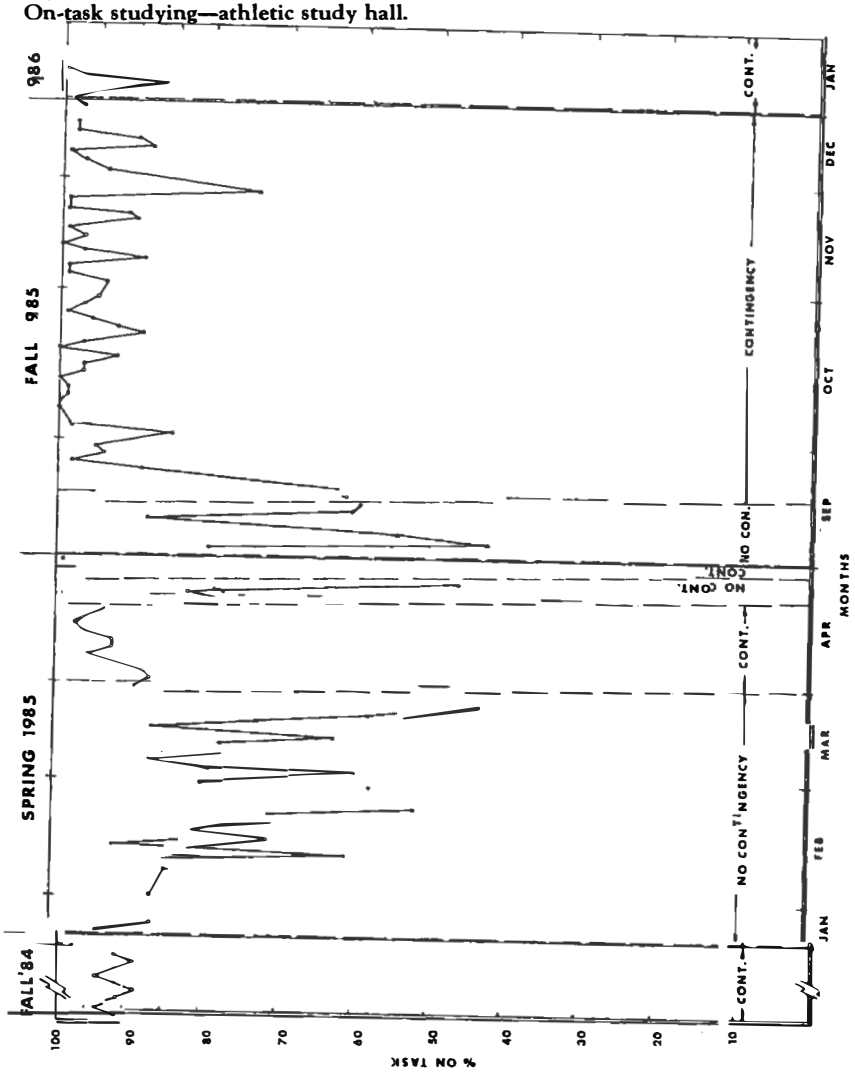
Results

The contingency was repeatedly demonstrated to be effective (Figure 1). Specific data points for Fall '84, first semester, are currently unavailable but the semester summary reports on-task behavior ranging from 93% to 100% during intervention. Baseline on-task figures rarely were above 70%. Because this was the first semester the program was implemented and because a reversal took place at the beginning of the spring semester, the data from the previous contingency phase are roughed in Figure 1. Considerable time was required for on-task behavior to deteriorate when the contingency was withdrawn in Spring, 1985. Finally getting down to 56% on-task during the eighth week (X = 74%). Return to contingency phase (X OT = 94%) was followed by another reversal (X OT = 69%) and finally by return to contingency for one day at the end of the semester (OT = 99%).

During Fall, 1985, baseline conditions obtained for the first 7 days yielded on-task X = 64.4%. Contingency phase yielded an on-task mean of 94.7%. Informal observation by numerous visitors resulted in reports of easily discriminable differences in the tone and in the activities occurring during

study hall in the different phases. In fact, it was difficult to persuade various officials that returning to baseline conditions was necessary.

Figure 1.
On-task studying—athletic study hall.



Additional Data Suggesting Changes in Behavior and Attitude

During Fall, 1985, additional data were collected on various aspects of student behavior. One item of interest was what percentage of athletes actually met the criterion each night, and whether there was a change in that

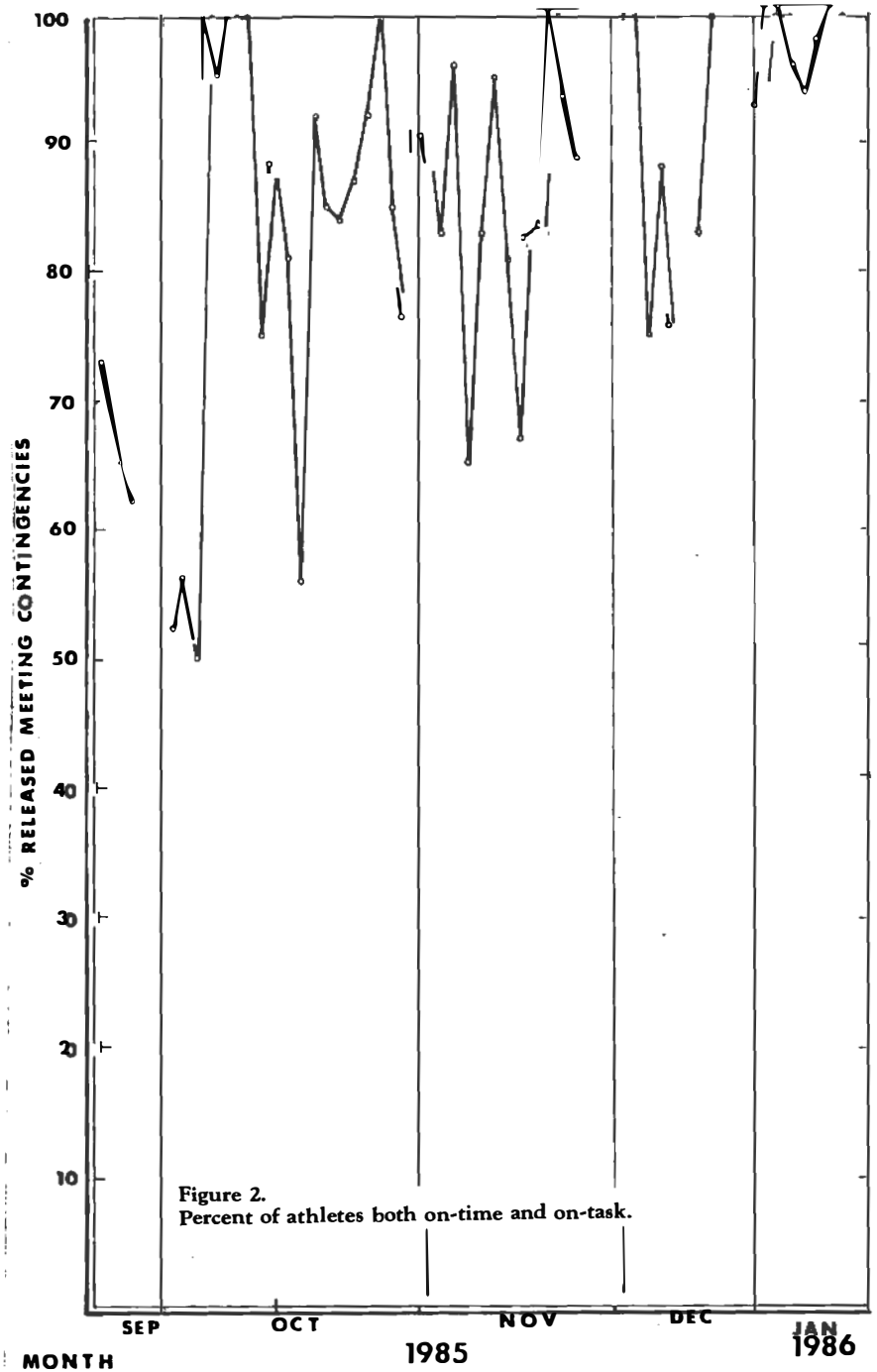


Figure 2.
Percent of athletes both on-time and on-task.

percentage during the course of the semester. These data are displayed in Figure 2. Considerable variability is evident in the data, but, in general, an increasing number of students were released on-task as the semester progressed. This suggests that individuals may have responded differently to the contingency, some countercontrolling despite the cost of failing to obtain what was likely to be a desirable commodity—free time. This interpretation of the change is buttressed by anecdotal observation of some students' expression of mistrust and resentment at the beginning of the semester. Repeated assurances from study hall staff that each student had the option every evening to study or not, and that nothing but the free time was contingent on their behavior, may have affected the change in overall behavior of some individuals.

A sign that what went on in study hall was gaining some reinforcing characteristics is the data on the number of students who chose to remain in study hall after they were given permission to leave. In Figure 3, data are displayed showing the percentage of students given permission to leave who continued working after release. It should be noted that the extremely high data points represent very small numbers of students who came to study hall on evenings when all students were given permission to attend basketball games. Having come voluntarily, they all tended to stay as long as help was available, sometimes until well after the 9:30 closing time.

Discussion

A simple contingency management system resulted in changing a circus-like study hall into a quiet room in which almost all students spent most of their time studying; those who were not studying sat quietly, not interfering with the studying of others. Two hours of resented incarceration was converted into 1-1/2 hours of academic behavior followed by a regained half hour of personal time for students.

Important to note is that the contingency management system did not deal with the *effectiveness* of the study behavior. It simply worked to increase the proportion of time students spent in studying. Unless the students spent time studying, however, it was difficult to discriminate between those who needed tutorial help and those who simply needed to do what they were able to do. Effectiveness of study behavior is now being addressed and specific tutorial strategies developed.

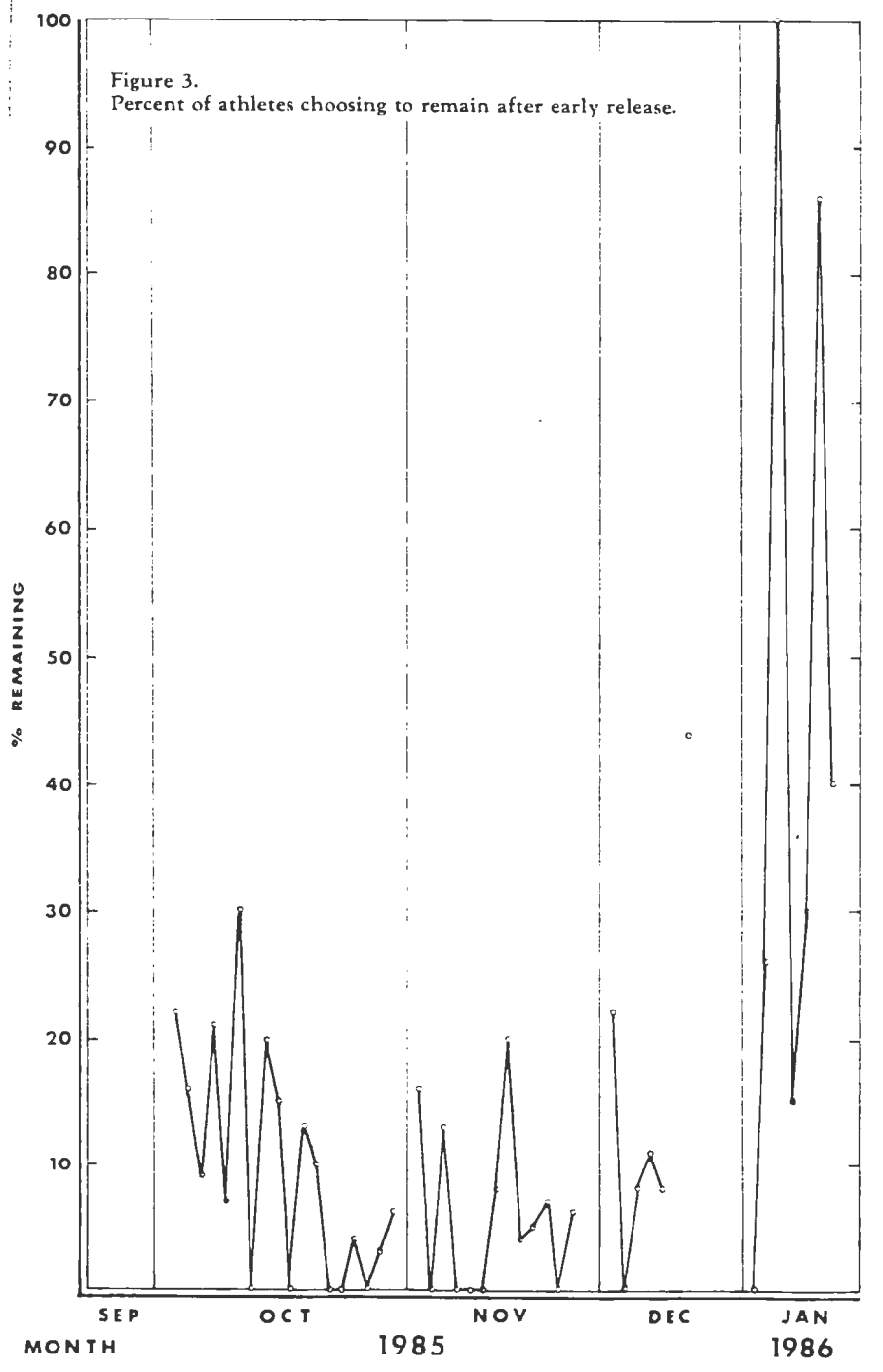


Figure 3.
Percent of athletes choosing to remain after early release.

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Biographical Sketches about the Authors

Sigrid S. Glenn, Assistant Professor and Director of the Center for Behavioral Studies, is developing a generic curriculum in Applied Behavior Analysis for the Center. As liaison between the School of Community Service and the Athletic Academic Program, she designed the contingency management system described in this paper. Students from her courses in Applied Behavior Analysis participate as tutors and data managers in the study hall.

Guy Bruce implemented the contingency management system as one part of his duties as supervisor of the study hall during the '84-'85 academic year. Pursuing his interest in Behavior Analysis, he now is working on his doctorate in Educational Psychology at West Virginia University. Instructional technology is his specialty.

Janet Ellis, whose Ph.D. is in Counseling Psychology, is currently managing the study hall and supervising the activities of the behavior analysis students in running the system. She is also developing for the Center for Behavioral Studies a remedial writing lab for students at risk for academic failure. She and Dr. Glenn have co-authored several papers.

Linda Rollins is Athletic Academic Coordinator, liaison between the Athletic Department and the academic community. She has her M.Ed. in Public School Administration and taught 4 years in public schools. She has served as Academic Coordinator for NTSU's Upward Bound and Youth Opportunities Unlimited programs.