A GROUP-ORIENTED CONTINGENCY TO INCREASE LEISURE ACTIVITIES OF ADULTS WITH TRAUMATIC BRAIN INJURY

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An interdependent group-oriented contingency and graphic feedback were used to increase the activity levels of residents of a group home for persons with traumatic brain injury. Results showed that the intervention was effective for 4 of the 6 subjects. Individual performances must be examined when implementing group contingencies because all subjects may not respond.

DESCRIPTORS: brain injury, leisure activities, group contingency

A significant behavioral deficit experienced by persons with traumatic brain injuries is the decreased initiation of purposeful activity that may be especially important during leisure time (Berger & Regalski, 1990). Most behavioral literature has focused on leisure-skill acquisition for persons with developmental disabilities rather than the independent initiation of these skills when they already exist in the repertoire (as may be the case with people who experience brain injury). Contingency management programs have been recommended for these people who have maintained adaptive skills but who do not perform them (Zahara & Cuvo, 1984). The purpose of this study was to evaluate the use of an interdependent group-oriented contingency to increase the active leisure engagement of a group of adults with brain injury.

METHOD: Participants were 6 adults with traumatic brain injury whose ages ranged from 27 to 35 years ($M = 30$). The study was conducted in the main living areas of their group home.

Using momentary time-sampling procedures, four 5-s observations per hour were conducted from 7:00 p.m. until 10:00 p.m. Monday through Thursday for each participant. Observations began in the living room, followed by the kitchen, dining room, and front porch. The observer recorded whether (a) the participant was engaged in active free-time activities (e.g., playing cards, socializing), (b) the participant was engaged in a passive activity (e.g., watching television), or (c) there was no opportunity to observe. The dependent variable, the percentage of observations in which the group engaged in active leisure activities during their free time, was determined by dividing the number of observations during which participants engaged in active leisure by the total number of observations and multiplying by 100%. Interobserver agreement, assessed on 25% of the total observations across all phases, was calculated by dividing the number of agreements by agreements plus disagreements and multiplying by 100%. Agreement scores ranged from 94% to 100% ($M = 98\%$).

The design was a changing criterion with a withdrawal embedded. After 3 weeks of baseline, the group-oriented contingency was introduced. Definitions of active and passive leisure were provided. The group members were informed that if they engaged in active leisure during 25% of their free time (i.e., highest weekly performance during baseline), they would earn a weekend activity of the group's choice. A poster with a graph showing the group's active leisure performance for the week compared to the criterion was placed on the bulletin board in the kitchen and was updated daily. The poster also included a list of activities to do more often and a list to do less often to help the group meet the goal.

After 2 weeks at the first criterion level, the criterion was raised to 40% (the group's highest performance during the first level) for 3 consecutive weeks. Subsequently, participants were told that the contingency would no longer be in effect, the poster was removed, and feedback and the activity reinforcer were not provided. After 1 week, the group contingency was reinstated with a criterion level of 50% (the mean performance at the second criterion level) and remained in place for 3 consecutive weeks.

RESULTS AND DISCUSSION: The figure shows that during baseline, the mean percentage of observations in which subjects engaged in active leisure ranged from 13% (Sue) to 47% (Lee). When the criterion of 25% was in effect, the mean levels of active leisure increased to 28% (Bob), 71% (Lee), 32% (Gus), and 49% (Sue). Beth's levels were not much different than her baseline mean (20%); Jan's mean was 36%, approximating her highest baseline point. When the criterion was raised to 40%, Bob's and Gus's levels of active leisure increased to means of 47% and 42%, respectively. Lee's, Sue's, and Jan's behavior remained unchanged. Beth's engagement, which increased to a mean of 38%, was variable. During this phase, Sue and Beth moved, and Jan became ill (Weeks 6 and 7) and was hospitalized (Week 9). When treatment was withdrawn during Week 12, Bob's and Gus's mean levels of active leisure decreased to 12% and 18%, respectively, and Lee's remained at the treatment level. When the criterion was reintroduced at 50%, Bob's and Gus's levels of active leisure increased to a mean of 61% and 44%, respectively. Lee's performance was unchanged.

Results indicate that the contingency was associated with increases in active leisure for 4 subjects (Lee, Bob, Gus, and Sue). Lee's increases were maintained even when the contingency was removed, suggesting that the contingency may have been an effective way to get the behaviors performed initially, and to encounter naturally occurring reinforcers responsible for maintenance of the change. Bob's and Gus's behavior returned to baseline levels during the withdrawal, suggesting that although the treatment was responsible for their change in behavior, the leisure behaviors themselves were not reinforcing. Beth's and Jan's data reveal that not all individuals will respond to group contingencies.

Future research might examine the initiation of activities rather than simply the occurrence of activities. It is possible that initiation of activities by 1 or 2 residents is responsible for the behavior of other residents. In addition, the impact of increased leisure activities on life-style satisfaction of individuals should be evaluated. The program presumably had a positive effect for Lee, whose behavior change was maintained without the contingency. In contrast, active leisure behavior was not maintained during treatment withdrawal for Bob and Gus, suggesting that their life-style satisfaction might not have improved.

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