

EFFECTS OF FEEDBACK AND SELF-MONITORING ON HEAD TRAUMA YOUTHS' CONVERSATION SKILLS

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The effects of feedback and self-recording on the small group conversational behaviors of two head trauma youths were evaluated. Feedback involved providing clients a light signal corresponding to positive or negative social interactions. The self-monitoring procedure required that the clients flip a switch corresponding with their positive or negative interactions. An A₁-B₁-C₁-A₂-C₂-B₂ design in which the feedback phase (B) and self-monitoring phase (C) were alternated to control for order effects demonstrated the efficacy of both interventions. Performance gains were also shown to generalize to less structured situations, bringing the clients' level of positive responses into a range established with a social comparison group.

DESCRIPTORS: feedback, self-monitoring, head trauma youths, social validation, social skills

Interpersonal skill deficits associated with brain injuries are receiving increasing attention in the rehabilitation literature (Yorkston, Stanton, & Beukelman, 1981). The highest incidence of head trauma occurs between the ages of 16 and 25 years (Kalsbeek, McLaurin, Harris, & Miller, 1980), when the development of social competence is critical (Jones, 1980). Many brain-injured youths require social rehabilitation, yet there has been little controlled research in this area.

Social skills research emphasizing the use of instruction, shaping, prompting, modeling, feedback, reinforcement, and behavior rehearsals has been conducted with several populations including the mentally retarded (Bates, 1980; Lancioni, 1982), chronic schizophrenics (Bellack, Hersen, & Turner, 1976), alcoholics (Eisler, Hersen, & Miller, 1974), and depressed persons (Schloss, Schloss, & Harris, 1984). These studies have demonstrated that learning principles, applied in various combinations, are effective in modifying interpersonal skills such as eye contact, use of gestures, speech latency, loudness and intonation, and the content of speech including requests for information, compliments, self-disclosure, and initiation of conversations.

Given evidence of the impact of interpersonal skill training on diverse groups, it is reasonable to expect similar effects with head trauma persons.

Therefore, the purpose of this study is to investigate the effectiveness of self-monitoring and feedback in promoting the acquisition and generalization of appropriate group conversational behaviors for two head trauma youth.

METHOD

Clients and Settings

Two postdevelopmental head trauma youths of normal intelligence were selected for participation in the study. Both participants were 22-year-old males who were involved in separate automobile accidents 18 months prior to this investigation. Client 1 evidenced a dense right hemiplegia, whereas Client 2 suffered bilateral brain damage. Informal assessment of communication skills in conversations with both youths revealed confabulatory and perseverative responding, an inability to stay "on topic," excessive self-disclosures, interruptions, and inappropriate laughter. In addition to these clients, two additional persons with communication skill deficits participated as group members. Data were not collected on the two additional group members.

The training setting was a group therapy room in the Speech and Hearing Clinic at The Pennsylvania State University. The room contained a rectangular table around which the four group mem-

bers and a group facilitator were seated in a semicircle facing a large one-way mirror. A videotape camera and observers were located behind the mirror in an adjoining observation room. The generalization setting was a client lounge located in the Speech and Hearing Clinic that was frequently used as an informal meeting place for clients, guests, and relatives.

Facilitators and Session Procedures

One facilitator participated in treatment sessions and two participated in generalization probes. The facilitators followed a standard interaction protocol and were blind as to the purpose of the study. At the beginning of each training session a selected article taken from "Dear Abby" was read aloud two times by the facilitator to the group members. The facilitator then asked, "Are there any questions?" The facilitator then waited 3 seconds. If discussion ensued among the group members, the facilitator remained silent and allowed the discussion to continue. If responding did not begin within the 3-second time period, a prompting hierarchy was implemented in which the facilitator posed a series of questions ranging from general to specific. Once discussion had begun, the facilitator remained silent and allowed the conversation to continue naturally regardless of its direction or content. The facilitator only intervened when 3 seconds of silence occurred.

The same protocol was used during the generalization probes, except that the facilitators initiated conversations by asking, "What shall we talk about today?" rather than using a "Dear Abby" article.

Response Definitions and Recording Procedures

Responses were scored plus (+) when the client added to the previous group members' conversation by making a relevant statement, agreed or disagreed with the previous group members' conversation and provided a rationale, or asked a relevant question. Responses were scored minus (-) when the client was silent following another participant's question/statement, expressed three words or less, was off-topic, mumbled, joked, or interrupted.

Interactions were scored in the training setting by students situated in the observation room. Responses during the generalization sessions were scored from audiotape transcriptions of the sessions. The percentage of (+) responses produced daily by each client was calculated by dividing the frequency of (+) responses by the total number of responses produced by that client.

Training Apparatus

Two self-monitoring/feedback units (one for each experimental client) were used. Each unit consisted of two 2 × 3 inch battery-operated boxes that were connected by approximately 15 feet of conductor wire. A toggle switch that could be moved to three positions labeled A, off, or B was mounted on one of the boxes. The A position was coded green and included a list of the (+) group conversational behaviors. The B position was coded red and listed the (-) group conversational behaviors. The other box included two indicator lights, one green under which (+) conversational behaviors were listed and one red under which (-) conversational behaviors were listed. The toggle switch portion of each unit activated the corresponding light indicator unit.

Treatment

Feedback (B). During the feedback phase, observers behind the one-way mirror operated the toggle switch boxes. The lights were located in front of each client. With facilitators out of the room, two trainers explained that the red light would come on when (-) conversational behaviors occurred and the green light would come on when the (+) conversational behaviors occurred. Then, the two trainers role played simple conversations in which feedback was provided. The group members were asked to explain why the green or red light went on. At least one example of each conversational behavior was provided by the trainers. Next, the group members each engaged in simple conversations with one of the trainers and the lights were activated appropriately following each response. Group members were again asked to explain why the green or red light went on following each response. Finally, a written quiz was admin-

istered consisting of five simple conversations. The group member was instructed to check which light, green or red, would come on for each interaction. Prior to beginning feedback sessions, performance on the written quiz was 80% correct across all group members.

Self-monitoring (C). During this phase, the toggle switch boxes were placed on the table in front of the group members. The light indicator portion of each unit was placed in the observation room. The trainers instructed the group members to push the toggle switch to A when (+) conversational behaviors were produced and to B when (-) conversational behaviors were produced. As in the feedback instruction periods, all types of conversational behavior were reviewed and group members were given practice in using the toggle switch to record the conversational behavior.

Reliability

Approximately one-third of all baseline and treatment sessions were scored by an independent rater. Percent agreement was calculated by dividing the smaller percentage of (+) responding by the larger percentage of (+) responding calculated by the observer and the independent rater. The average reliability for the two clients throughout each phase in the treatment and generalization sessions was 91% with a range of 81% to 95% for each client in each phase. Reliability was also established on each client's ability to self-monitor by determining percent agreement between the clients' coded response (A or B) during self-monitoring and the observer's score (+ or -). The average reliability throughout the study was 77% with a range from 68% to 82% for each client in each phase. Finally, an independent rater scored the facilitators' use of the protocol by coding each facilitator prompt. The number of prompts given according to protocol and the total number of prompts given was calculated. This ratio produced an overall procedural reliability of 83% for treatment sessions and 78% for generalization sessions.

Social Validation

The social comparison procedure involved applying the dependent variable used in this study

to two groups of six 20–22-year-old college students meeting for the first time. Data were collected under two conditions for both groups. In the first format, the use of a "Dear Abby" article and the facilitator protocol was the same as that used in treatment sessions. In the second, the group structure and facilitator protocol paralleled that of the generalization sessions. The rate of positive conversational behaviors was recorded on an audiotape for each of the 12 participants. The tapes were scored and reliability was tested using the same procedures as described previously. Reliability for these observations ranged from 90% to 93%. The resulting mean and standard deviation for the 12 participants under the training condition were 56 and 15, respectively. The mean and standard deviation under the generalization condition were 44 and 12, respectively. These data were used as a reference point for the clients' performance.

RESULTS

Figures 1 and 2 show that both clients' appropriate conversational behaviors were substantially below those of the comparison groups during baseline. The first feedback phase improved the percentage of appropriate responding to a mean of 57.6% for Client 1, and a mean of 54% for Client 2 during training sessions. Comparable effects were noted in the generalization sessions with the clients obtaining an average percentage of appropriate responding of 41% and 44%, respectively. Introduction of the first self-monitoring phase increased performance of the first client to a mean of 73% (training) and 54.3% (generalization). The second client's performance remained stable at 53% (training) and 47.3% (generalization).

A subsequent return to baseline reduced the level of performance to the initial baseline levels for the training data of both clients. The generalization data of Client 2 also returned to a baseline level. The second self-monitoring phase replicated the original increase in percentage of positive responding. The mean in training was 67% for Client 1 and 50% for Client 2. Generalization data in this phase complemented this effect with respective means of 55% and 43%. The return to a second

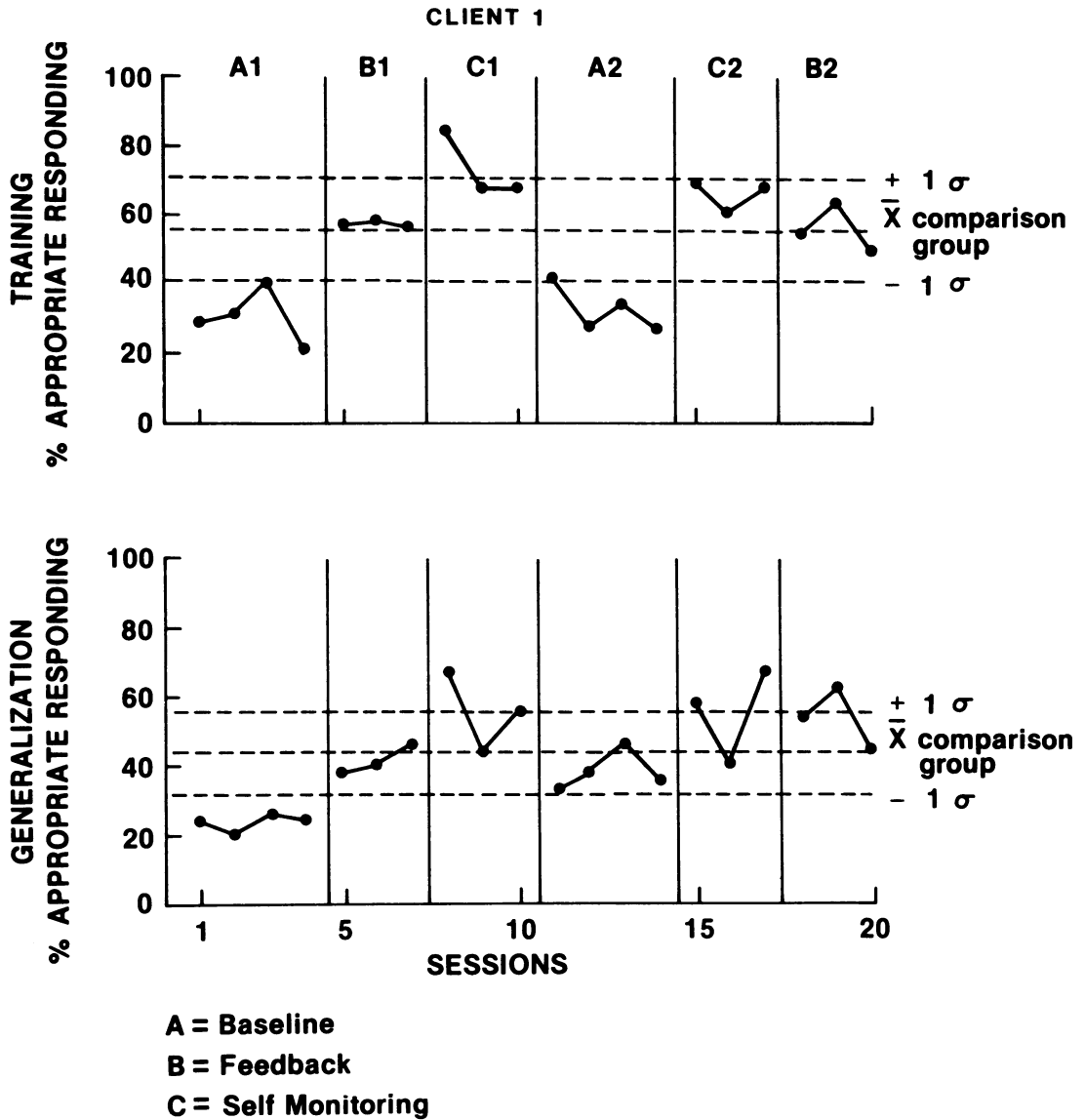


Figure 1. Percentage of appropriate (+) conversational behaviors produced by Client 1 during baseline, treatment, and generalization sessions.

feedback phase reduced the level of performance for Client 1 to 56%, whereas the percentage of positive responses increased to 68% for Client 2. Generalization data in the second baseline phase again produced comparable results with a mean of 54% for Client 1 and 45% for Client 2.

With regard to the social comparison data for both clients, the rates for all but one baseline phase in both training and generalization settings were clearly below one standard deviation of the contrast

groups' mean rate. Conversely, treatment rates were all within one standard deviation of the mean established by the contrast groups.

DISCUSSION

The preceding data provide clear evidence that feedback and self-monitoring had a positive effect on the conversational behaviors of the two clients. The rates of positive social interactions were higher

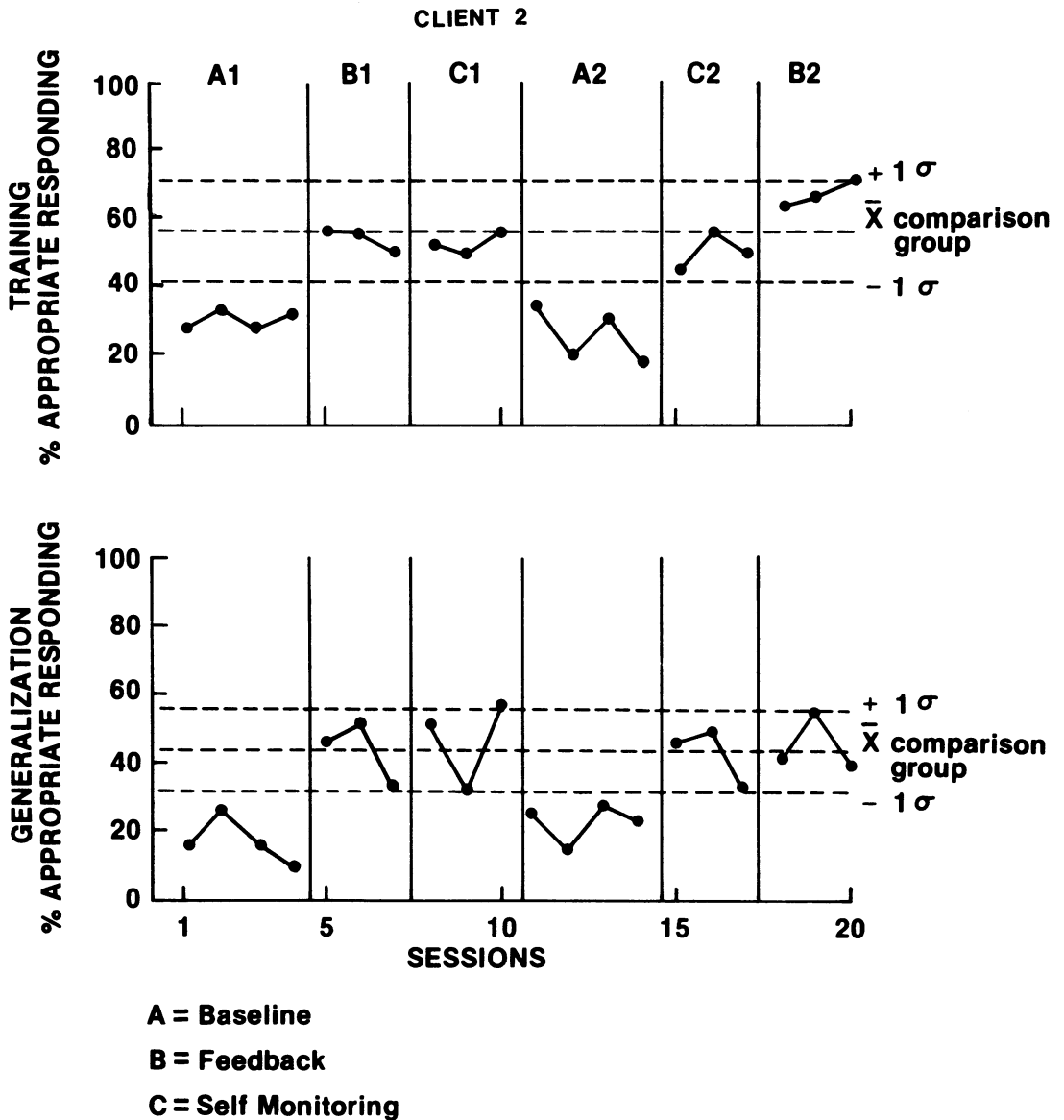


Figure 2. Percentage of appropriate (+) conversational behaviors produced by Client 2 during baseline, treatment, and generalization sessions.

in all treatment phases when compared to data from adjacent baseline phases. Social validation data indicated that both intervention approaches brought the rate of positive interactions into the range established with a social validation group. Data collected during generalization sessions provided evidence that treatment gains resulting from both approaches had a therapeutic influence in a less structured group situation. Again, the social vali-

ation procedure indicated that generalization data were brought within the range established with the comparison group.

Because only two clients participated, it is difficult to hypothesize why one reacted differently to the interventions than the other. Consequently, additional analytic research is needed to identify client variables that interact with treatment variables. Such research would delineate the most efficient

and effective means of influencing conversational behaviors for youths exhibiting different learning or behavioral features.

Based on the present data, both feedback and self-monitoring appear to be effective treatment approaches. Thus, they may be applied with some degree of confidence to the development of conversational behaviors with head trauma youths. When resources permit, the two strategies may be combined into a treatment package. Or, a more systematic analysis may be conducted to identify the most effective approach for the individual client.

In conclusion, this study was an assessment of the effects of self-monitoring and feedback in modifying the conversational behaviors of head trauma youths. Both procedures were demonstrated to be effective; however, a clear statement of the relative effectiveness of each cannot be made. Further studies may be conducted to isolate client features that interact with treatment effects.

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