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AUTHOR	Thoresen, Carl E.; And Others
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ABSTRACT

A nursery school teacher received three types of training in self-observation skills, which were compared with regard to their effects on the accuracy of the self-observations. Minimal training consisted of a brief description of the behaviors to be recorded. The feedback condition incorporated daily information about the accuracy of the self-observations, and discrimination training involved a detailed training session in which modeling and videotape exercises were used to teach self-observation skills. First, positive verbal behavior was observed, then positive nonverbal behavior. The results led to two major conclusions: (1) The accuracy of a subject's self-observations can be substantially increased through feedback and discrimination training; and (2) the act of self-observing tends to alter the frequency of the behavior being observed. Implications for behavioral self-management programs and teacher training are discussed. (DP)

STANFORD CENTER
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IN TEACHING

Research and Development Memorandum No. 110

BEHAVIORAL SELF-OBSERVATION TRAINING WITH A NURSERY SCHOOL TEACHER

Carl E. Thoresen, David R. Hubbard, Jr.,
James W. Hannum, C. Gaylord Hendricks,
and Deane Shapiro

School of Education
Stanford University
Stanford, California

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Introductory Statement

The Center's mission is to improve teaching in American schools. Too many teachers still employ a didactic style aimed at filling passive students with facts. The teacher's environment often prevents him from changing his style, and may indeed drive him out of the profession. And the children of the poor typically suffer from the worst teaching.

The Center uses the resources of the behavioral sciences in pursuing its objectives. Drawing primarily upon psychology and sociology, but also upon other behavioral science disciplines, the Center has formulated programs of research, development, demonstration, and dissemination in three areas. Program 1, Teaching Effectiveness, is now developing a Model Teacher Training System that can be used to train both beginning and experienced teachers in effective teaching skills. Program 2, The Environment for Teaching, is developing models of school organization and ways of evaluating teachers that will encourage teachers to become more professional and more committed. Program 3, Teaching Students from Low-Income Areas, is developing materials and procedures for motivating both students and teachers in low-income schools.

One component of the Program on Teaching Effectiveness deals with the development of personal competencies, i.e., with the development of methods that can be used to teach individuals how to function more effectively in the social-emotional area. This report on self-observation describes the technique of self-observing, the accuracy with which it can be done, and the effect it may have on the behaviors being observed.

Abstract

This study compared three types of self-observation training with regard to their effects on the accuracy of self-observation by a nursery school teacher. First, positive verbal behavior was observed; then positive nonverbal behavior. The total observation period was 10 days. Self-observation was operationalized as the recording of occurrences of one's own behavioral responses of a given kind by means of a wrist counter. The three types of training were (a) minimal training, (b) feedback, and (c) discrimination training. The effect of self-observation on the behaviors observed was assessed to determine whether reactivity occurred.

The results indicated that minimal training and discrimination training improved accuracy, that accuracy began to decrease in the absence of feedback, and that self-observing tended to alter the frequency of the behavior being observed.

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Evidence in recent years has shown the important effect of a teacher's positive and negative responses on student behavior (e.g., Becker, 1973). As a result of this evidence, a number of teacher-training programs have utilized behavioral principles in the classroom (e.g., Kunzelmann, 1971; Madsen & Madsen, 1971). A common element of these programs involves teaching the teacher to positively reinforce appropriate student behavior. Many teachers, however, revert to their former procedures after the course, the experiment, or the observation ends (O Leary, 1971). Bem (1972) and others have suggested that by observing his own overt actions a person obtains information that he can use to make inferences about his attitudes, abilities, and beliefs. Nisbett and Valins (1971), in reviewing the literature on self-attribution, state that "we learn about our own attitudes and dispositions from self-observation." Thus, if a teacher notes through self-observation that she is acting more positively with children, her awareness may alter the frequency of positive thoughts she has about herself, i.e., her attitudes or beliefs about herself. Bem's self-perception theory and recent behavioral research in self-control (e.g., Cautela, 1971; Kanfer, 1970; Thoresen & Mahoney, in press) suggest that change is facilitated when a person considers himself the major agent of change. Further, such a view may also facilitate the maintenance of newly learned behavior.

A major basis of self-control lies in behavioral analysis, which includes the systematic gathering of data through self-observation (Thoresen & Mahoney, in press). Without specific information about current actions, a person may have great difficulty in bringing about change. Self-observation, besides providing information, i.e., awareness, necessary for self-change, also offers a means of gathering data

on internal actions, such as certain thoughts (self-verbalizations), where external observation is not possible. Thoresen and Mahoney have conceptualized self-observation as a composite of behaviors including discrimination (noticing), counting, recording, and analysis skills.

To date, few studies have dealt with effective methods of teaching self-observation skills (Kazdin, in press). Studies that have relied upon simple instruction, with no attempt at further training, have found widely varying levels of agreement and disagreement between self-observations and the observations of an external observer. McFall (1970), for example, found an overall correlation of about .65 between self-observing subjects and his external observer in terms of the number of cigarettes the subjects smoked during class; the range of agreement varied between -.05 and +1.00. Broden, Hall, and Mitts (1971) reported daily differences as high as 29 percent between an external observer and an eighth-grade girl recording the frequency of her studying in class; despite this daily discrepancy, the overall percentage of agreement for each phase of several days was almost perfect. Fixsen, Phillips, and Wolf (1972), in studying room cleaning tasks at a home for delinquent boys, presented evidence that high reliability of self-observation is a function of specific training in self-observation <u>and</u> daily positive reinforcement for agreeing with data from an external observer. Without training and daily contingent reinforcement, the self-observation data were extremely unreliable. Herbert and Baer (1972) also found little agreement between mothers self-observing their behavior at home and external observers; the average agreement between one mother and the external observer was less than 45 percent.

Some studies (e.g., Azrin & Powell, 1969; Suratt, Ulrich, & Hawkins, 1969) have reported high agreement between self-observers and external observers. Bolstad and Johnson (1972), for example, were relatively successful in having first and second graders self-observe their disruptive behavior (e.g., talking out) in the classroom; 71 percent of the student self-observations closely agreed with external observers. Yet, recent studies in general clearly indicate wide discrepancies between self-observation and external observation data. The skills of self-

observation should not be expected to develop through simple instructions, nor should self-observation be expected to be highly accurate without training. It is important to note that despite "unreliability" (lack of agreement), consistent behavior change has been found. Such findings point to other processes.

Another question concerning self-observation is that of reactivity. Does the process of self-observation influence the behavior being observed? Kanfer (1970) has suggested that self-observation often causes the behavior to change in the desired direction. Thus, the self-observing smoker finds himself smoking less as a result of self-observation. The explanation of this phenomenon may lie in the mechanisms of self-reinforcement and self-punishment. Accurate self-observation provides the basis for self-evaluation, setting the stage for the person to punish himself for observed negative responses or reward himself for positive actions. The consequences typically take place covertly; positive and negative comments to oneself exemplify such consequences. In other words, there is probably more to self-observation than gathering data on oneself.

Other studies have reported apparent reactive effects from self-observation. Gottman and McFall (1972), for example, used simple self-observation to increase the class participation of high school students who were potential dropouts; Broden, Hall, and Mitts (1971) increased the studying behavior of an elementary school child through self-observation. However, in both of these studies, the effects of self-observation were confounded with various forms of external social reinforcement, experimenter bias and expectancy effects. Thus the changes cannot be definitely attributed to self-observation per se. The effects of self-observation are often variable and inconsistent. Studies of the possible factors that influence this process are needed.

The present study compared three types of self-observation training with regard to their effects on the accuracy of self-observation of the positive verbal and nonverbal behavior of a nursery school teacher. The three types of training were (a) minimal training, (b) feedback, and

(c) discrimination training. In addition, the effect of self-observation on the teacher's classroom behavior was assessed to determine whether reactivity occurred.

Method

A volunteer nursery school teacher was asked to self-observe various categories of her own behavior during a designated one-hour period on Mondays, Wednesdays, and Fridays for three and a-half weeks, thus yielding data on 10 days. Initially, the subject observed the frequency of her positive verbal responses to children. These responses were arbitrarily limited to statements containing the words "I like" or "that's great."

An experienced classroom observer was trained to record the teacher's positive verbal statements as well as positive nonverbal behaviors used in the third phase of the experiment. Nonverbal responses included four physical contact behaviors ("hugs," "pats," "strokes," and "squeezes") and one facial expression ("smiles"). The observer was placed in the classroom under the guise of recording only student behavior and observed for the same hour the teacher was self-observing.

In an initial meeting, the teacher was provided with the definition of positive verbal statements and was given brief instruction in the use of a wrist counter for recording (Lindsley, 1968). No further training or practice was provided at this time. This phase lasted for two days and constituted the minimal training period; it was apparent from the data that the subject did not fully understand what behaviors to observe. The teacher was contacted by telephone each night to obtain her self-observation data as well as to ask a standardized set of questions concerning personal reactions. Between the second and third observation days, a second session was held with the teacher during which feedback was provided about her self-observation inaccuracies. The behaviors to be observed were again delineated and some examples were discussed. The effects of this extra training and feedback were assessed during the following three days of observation.

For the final phase of self-observation, a detailed training session was devised to teach the skills of self-observation. To assess the effect of the training, a new behavior was chosen for the focus of self-observation. The new behavior was positive nonverbal behaviors, operationally defined as hugs, pats, strokes, squeezes, and smiles. The training consisted of a series of modeling and videotape exercises designed to help the teacher practice discriminating the responses that were later to be self-observed. After this training, the teacher was asked to self-observe this new response class for the remaining five days. Self-observation of verbal behavior was discontinued during this phase, though the external observer continued to record their frequency. The teacher's data and personal reactions were collected by telephone after each observation day throughout this period. At the conclusion of the study, a final meeting was held with the teacher for debriefing and final comments.

A second external observer periodically checked the first observer. The mean interrater agreement (number of agreements/agreements + disagreements) was 72 percent for verbal responses and 69 percent for nonverbal responses.

Results

Accuracy

Figure 1 presents the percentage of agreement between the teacher's self-observation data and the external observer's data. These data were computed by dividing the smaller daily total by the larger daily total. For example, if the teacher reported 15 positive verbal responses for one day and the external observer reported 30, the percentage of agreement between these two sources of data would be 15/30 or 50 percent.

As can be seen, the agreement was low ($\bar{X}$ = 47.5%) during the minimal training period but increased greatly with the provision of feedback ($\bar{X}$ = 82.3%). Finally, the addition of discrimination training increased the level of agreement to 89 percent on Day 7, but the teacher's accuracy declined thereafter.

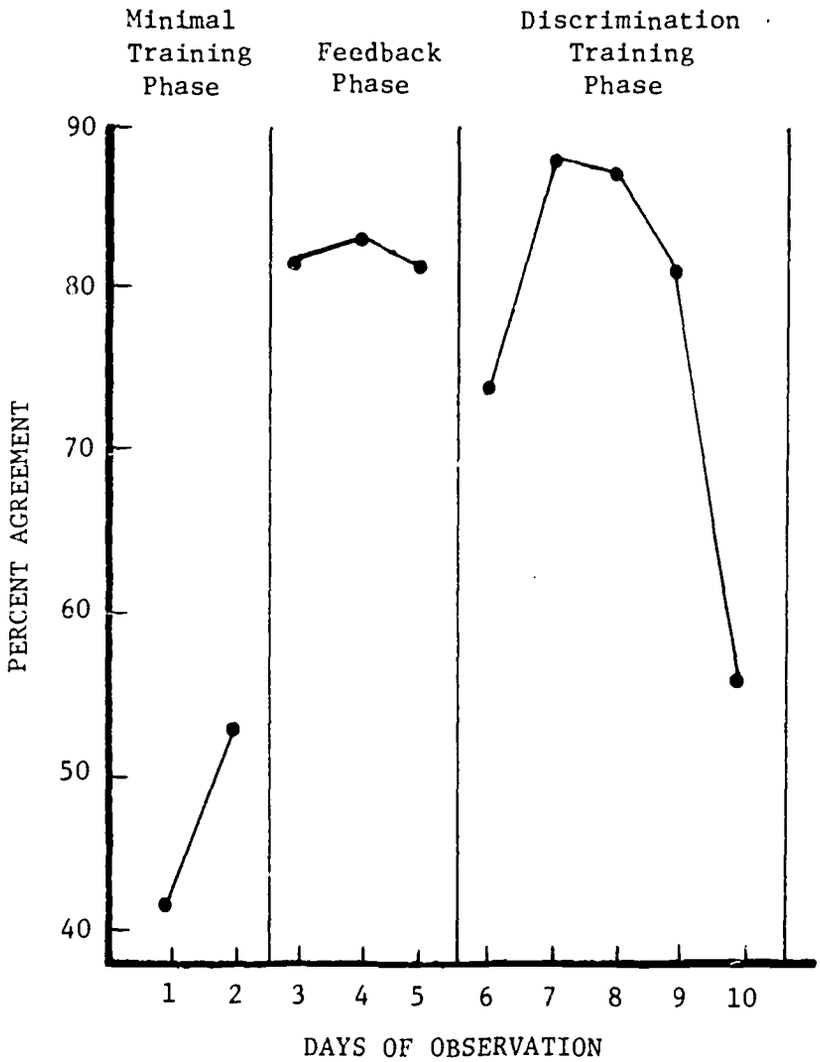


Fig. 1. Daily percentage of agreement between self-observation data and external observation data.

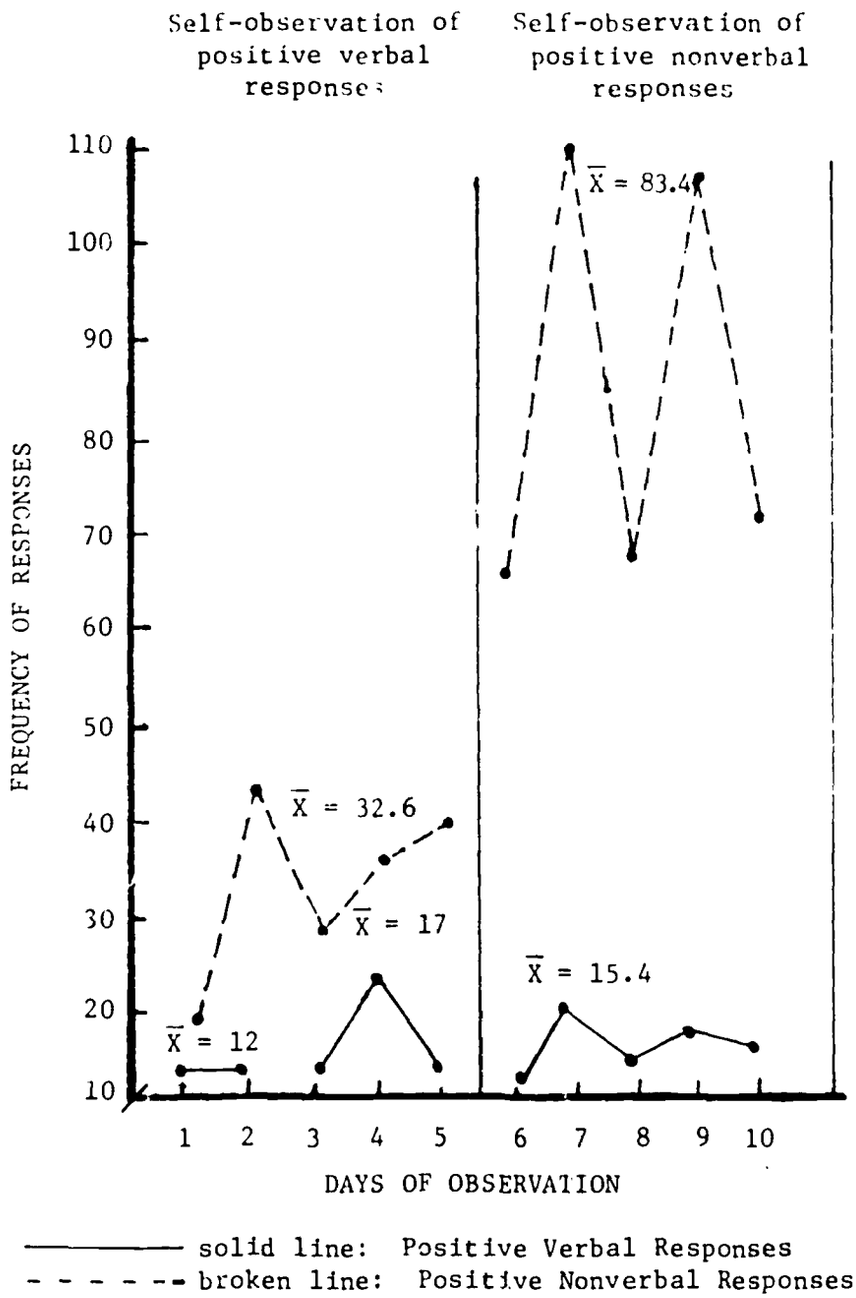
Reactive Effects

The reactive effects, rather than the accuracy, of self-observation are shown in Figure 2, which presents the total positive verbal and nonverbal responses for each day of observation. Positive verbal responses showed a slight increase between the minimal training phase and the feedback phase, changing from a mean of 12 to 17. In the third phase, during which the self-observation of this response class was terminated, the mean percentage of occurrence decreased to 15.4. Positive nonverbal responses, however, showed a much greater change as a result of the self-observation, increasing from an average of 32.6 over the first and second phases to an average of 83.4 during the third phase, when this response class was the target of the self-observation.

Figure 3 shows the breakdown of the positive nonverbal category into its two subcategories: (1) smiles and (2) hugs, strokes, pats, and squeezes. This separation was based on the external observer's information that "smiles" was a very difficult behavior to discriminate accurately and observe. The decision to separate smiles from the other nonverbal responses was made after the fifth day, just prior to discrimination training. It was felt that this behavior had not been defined well enough and that its inclusion in the self-observed behavior would reduce the accuracy of self-observation; hence, training was not provided in smiling responses. To provide data to compare with the baseline period (periods 1 and 2), the external observer continued to count smiles and to determine the total positive nonverbal responses based on the sum of these two subcategories.

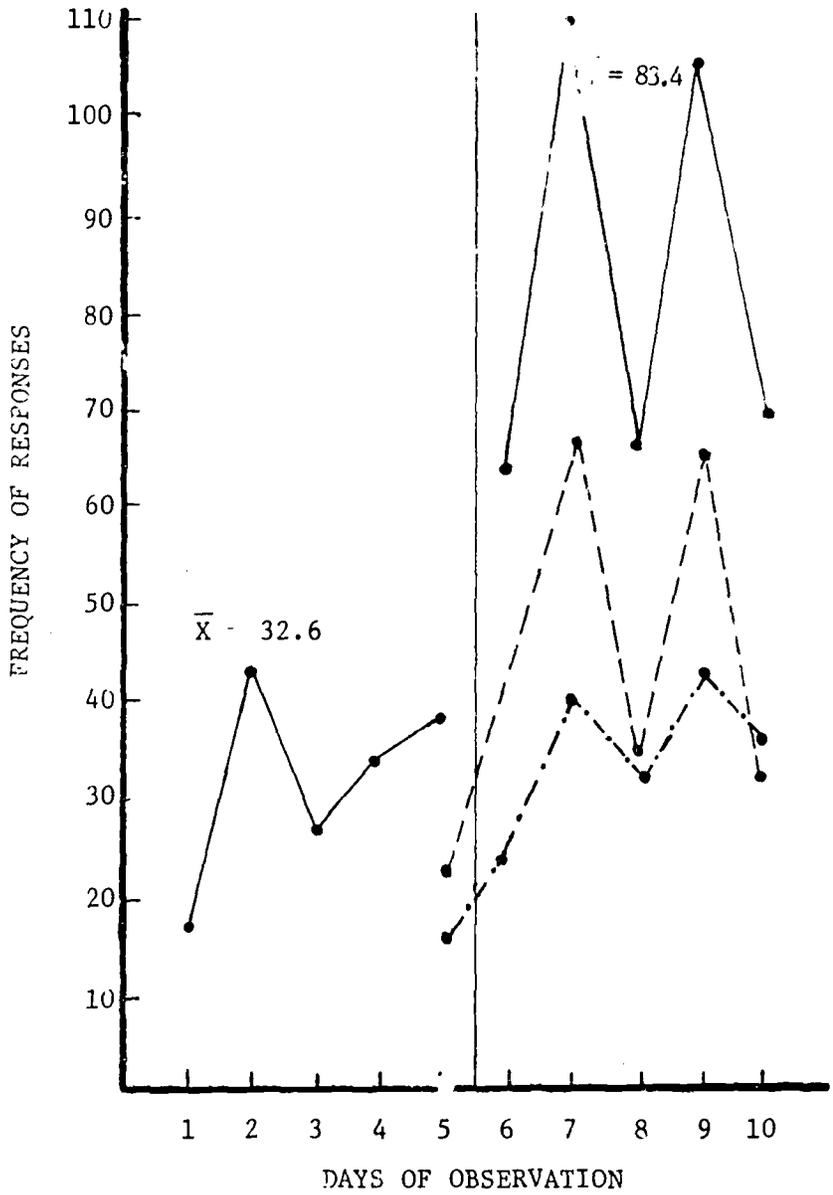
Discussion

Two main conclusions are suggested by the results of this preliminary case study: (1) the accuracy of a subject's self-observation can be substantially increased through feedback and discrimination training, and (2) the act of self-observing tends to alter the frequency of the behavior being observed.



——————— solid line: Positive Verbal Responses
- - - - - - broken line: Positive Nonverbal Responses

Fig. 2. Daily frequency of positive verbal responses and positive nonverbal responses.



——————— solid line: Total positive nonverbal responses
- - - - - - broken line: Hugs, strokes, pats, and squeezes
—·—·—·— dash-dot line: Smiles

Fig. 3. Daily frequency of total positive nonverbal responses and its two subcategories.

Accuracy of self-observation is important whether the self-observation is used as an intervention or as a means of collecting data in a self-management program. The results suggest that a training program designed to increase the subject's skills in discriminating the specified behavior and counting it can significantly increase the subject's accuracy. In addition, the data suggest that accuracy tends to decrease with time. Thus it seems important to offer feedback on accuracy on a regular basis to maintain performance. Systematic self-charting of the data may also provide a type of feedback that encourages maintenance of change (Thoresen & Mahoney, in press).

Self-observation can be a powerful tool in altering behavior. In this study, self-observation was associated with a mean increase of positive nonverbal behavior from 32.6 to 83.4 responses per session. This change occurred despite the fact that the teacher was at no time encouraged to increase these responses. In fact, the teacher's daily comments on the telephone clearly indicated that she did not suspect this sharp increase. Yet she did consider the positive nonverbal behavior to be appropriate and highly desirable. Hence, we do not know what processes besides self-observation accounted for the increase. The teacher did say she was "really pleased" that self-observation was making her much more aware of what she did with the children. It seems plausible that she may have often rewarded herself for this change via positive thoughts and self-statements. The teacher mentioned that using the wrist counter was often "encouraging," i.e., reminded her to engage in the behavior being observed. In this way, the counter may have served as a discriminative cue to prompt the behavior (cf. Broden, Hall, & Mitts, 1971).

There was difficulty in obtaining reliable, "true" data on the teacher's behavior. To correlate self-observation data with external observation data, an external observer was necessary. But it was possible that the "demand characteristics" of such an observer might influence the teacher's behavior, if she knew that the behavior she was self-observing was also being externally observed. For this reason the teacher was not told what behavior was being externally observed.

Two problems developed, however. First, the observer had a difficult time getting close enough to the teacher to observe and record all responses. As the data suggest, agreement between the teacher and the observer was not high. The other difficulty was that of making certain that both the teacher and the observer were observing and recording the same behaviors. It was possible to check continuously with the external observer about observations, but it was not possible with the teacher, since checking would in effect constitute an intervention itself. To avoid some of these problems in subsequent work, a remote recording unit and a wireless microphone have been used. This instrumentation allows a more reliable source of "true" data and is less obtrusive than the presence of an external observer. But, of course, it does not permit recording of nonverbal behavior.

There remains the question, How did self-observation produce behavioral change? Self-observation may function as a covert form of self-reinforcement and as such may increase response frequency (Kanfer, 1971). Another hypothesis, consistent with Skinner (1953), Terrace (1971), Thoresen & Mahoney (in press), and others, is that self-observation operates so as to broaden the range of discriminative stimuli to which the person is responsive. In effect, this brings the behavior under the influence of a greater number of contingencies, with the result that the person's increased attention to environmental stimuli and reinforcing events increases the occurrence of the target behavior.

The suggestion that self-observation produces a desired increase or decrease in the frequency of self-observed behavior indicates its use as a therapeutic intervention. Research is needed to determine what kind of self-observation is most effective for what type of behavior and how long self-observation can be effective in altering response frequencies without other systematic changes in environmental events. In addition, research is needed to examine what components of self-observation influence behavior. Does, for example, the systematic charting of self-observation enhance the effects of discriminating the behavior and counting it? In a classroom environment, would the actions of a teacher who is observing certain internal events, such as positive

self-thoughts, be influenced by the public display of the charted data to students? Research is needed to answer these questions and others if behavioral self-observation is to be of practical value as a self-control technique to teachers and others.

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