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CASE HISTORIES AND SHORTER COMMUNICATIONS

Behavior change and individual differences in self-control

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The use of self-control has become a major emphasis in recent behavioral treatment approaches. This has been especially true for the modification of appetitive disorders: high frequency behavior with immediate positive and delayed negative consequences, such as smoking and overeating. While the results have, for the most part, been promising, they have been marked by a high degree of intersubject variability; even the most generally effective programs have had only selective success (Mahoney, 1972). This variability might well be a function of fundamental interindividual differences in the ability to implement various self-control procedures. Kanfer (1971) has conceptualized self-control as a three component, closed loop process: self-monitoring followed by self-evaluation followed by self-reinforcement. The utilization of each component, the nature of their interaction and their implementation are all learned. Given the complexity of the process and idiosyncratic learning histories, individual differences are to be expected in each component of the self-control sequence. The effectiveness of any therapeutic program emphasizing self-control should, therefore, be a function of the ability and disposition of the patients to implement the self-control sequence or the specific component required by the procedure. An individual having low facility to administer effective self-reinforcement might, for example, do poorly in a program that required self-reinforcement by containing little or no external supports. Someone who has not learned to accurately self-evaluate might contravene a program by administering self-reinforcement inappropriately.

One way to test this contention would be to administer a self-control based treatment to individuals identified as differing in self-control ability: high self-controllers would be expected to do better. That method of attack might, however, be deferred. Lichtenstein (1971) has suggested that before conducting extensive, elegantly designed treatment research, clinical evidence supporting the efficacy of the procedures be gathered. That approbation can be applied to the evaluation of the general hypothesis presented above, which has not yet had direct empirical support. An alternative, more conservative research strategy would be to precede a treatment study with an examination of individuals who had already changed their own behavior: a process that by definition requires the effective use of self-control. Were the hypothesis valid, differences in the general predisposition (or ability) to emit self-control responses should be observed between individuals who have modified their own behavior (e.g., quit smoking, lost weight) and those unable to do so. The purpose of the present study was to offer some preliminary data on this issue by comparing a group of people who had lost weight or quit smoking with a group that had failed at either. The component of self-control selected for study was self-reinforcement. It was predicted that individuals able to modify their own behavior would have a greater predisposition to use positive self-reinforcement than those unable to do so.

METHOD

Subjects were recruited from classroom announcements requesting volunteers who had lost 15 lbs or quit smoking on their own in the past year or who had tried but failed at either of those tasks. Twelve quitters/losers and 12 non-quitters/non-losers were recruited. Differences between groups (and between smoking and weight subjects within groups) in age and chronicity of problem were non-significant.

Procedure

Self-reinforcement behavior was elicited for performance on a verbal recognition memory task developed by Bellack and Tillman (1974). Subjects were first shown a series of 30 nonsense syllables and then shown 30 sets of three syllables. The task was to identify the one syllable in each set that appeared in the first series. Self-reinforcement was administered in a manner similar to other self-reinforcement research (Bellack and Tillman, 1974; Kanfer and Marston, 1963). Subjects were instructed to administer positive self-reinforcement (SR +) when they believed they were correct, self-punishment (SR −) when they believed they were incorrect, and to do nothing when they were uncertain. SR + consisted of a button press that lit a small lamp and SR − was a button press that sounded a shrill tone. When the subjects reported for the experiment, they were seated in a small cubicle before a table containing the self-reinforcement apparatus. Stimuli were presented through a one-way vision screen by a Kodak Carousel slide projector. The memory items were presented at the rate of one per second and the recognition items for 5 sec each.

Table 1. Means and t scores for CR, SR, SR +, and SR −

Group	Variable CR	SR	SR +	SR −
Quitters				
Losers	12.00	14.75	18.91	1.25
Non-quitters/				
Non-losers	13.16	14.66	10.33	4.50
t	1.97	1.96	4.08*	2.11†
	(df = 22)	(df = 22)	(df = 22)	(df = 22)

* $p < 0.001$.
† $p < 0.05$.

RESULTS

As in other self-reinforcement research, the variables of interest were correct responses, total self-reinforcements, SR + and SR −. The data are summarized in Table 1.

The groups did not differ in the number of correct responses ($t = 1.97$, $p > 0.05$) or total number of self-reinforcements ($t = 1.96$, $p > 0.05$). The pattern of self-reinforcements administered was highly different. The quitters/losers ($M = 18.91$) gave considerably more SR + that the non-quitters non-losers ($M = 10.33$); that difference was highly significant ($t = 4.08$, $p < 0.001$). *These results were highly consistent within the two groups. Only two non-quitters/non-losers administered more SR + than the overall mean and only one quitter/loser administered fewer SR + than the overall mean. The lack of difference in use of total SR was due to the results for SR −. The quitters/losers* ($M = 1.25$) administered significantly ($t = 2.11$, $p < 0.05$) fewer SR − responses than the non-quitter/non-loser group.

DISCUSSION

The results are highly consistent with the hypothesis. Those individuals able to modify their own behavior administered significantly more positive self-reinforcement than a group that failed at self-modification. This difference occurred despite a lack of differences in response accuracy or reinforcement accuracy. With the small sample size and postdictive nature of the data, no definitive conclusions can be reached. Given the consistency of the differences, however, the results are highly suggestive and further examination of the overall hypothesis seems justified along two lines. Further specification of the differences in the self-control process between people who have not made effective use of self-control is necessary. Is there, for example, a consistent deficit in the entire complex, in one specific component, or in one of the three components? The second approach would involve an actual treatment study. As one step in that direction, the authors are currently conducting a weight reduction program in which preselected high and low self-reinforcers are being administered treatments emphasizing self- or external-control. It is predicted that the low reinforcers will do better in the latter while the high reinforcers will do well in both and better than the lows in both.

One unpredicted finding in the current study was that the failure group administered more SR − than the success group. This could be a function of the kind of population recruited (self-admitted failures) or typical of poor self-controllers in general. Ferraro (1973) has suggested that aversive self-control cannot be sustained without external support. Individuals placing their own emphasis (or learned style) on self-punitive measures might have less chance to maintain that approach than a positive self-control strategy and therefore be more likely to fail. Further examination of this finding is also warranted.

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