ABSTRACT
        Prior studies of hypnotic treatment of smoking have
reported abstinence rates of between 17 and 88 percent at six months,
but few have investigated procedures or forms of suggestions. To
compare the effectiveness of positive and negative hypnotic
suggestions and self-hypnosis for cessation of smoking, 32 subjects
were assigned to one of four treatment groups: (1) negative
suggstions alone; (2) negative suggestions plus self-hypnosis; (3)
positive suggestions alone; and (4) positive suggestions plus
self-hypnosis. Subjects also completed a series of smoking history
questionnaires; the Self-Efficacy for Smoking Avoidance
Questionnaire, to assess expectations for smoking cessation; and the
Horn-Waingrow Scale, used to delineate types of smokers. Treatment
involved three 1-hour sessions, with those not abstinent at
post-treatment or follow-up receiving three additional sessions.
Outcome was assessed at post-treatment and 1, 2, 3, and 6 months
following the final treatment session. Results indicated that
positive suggestions were more efficacious than negative. Treatment
was most successful for subjects who did not see themselves as
habitual smokers. While ratings of self-efficacy at pre-test and
following treatment were not predictive of later self-efficacy,
subjects' ratings at 1 month post-treatment were predictive of later
self-efficacy ratings. (JAC)

1

Hypnotic Treatment of Smoking

Samuel A. Bastien IV and Marc Kessler

University of Vermont

1

Abstract

Subjects were assigned to one of four treatment conditions in a hypnosis

treatment program comparing the effects of positive and negative

motivational focus for suggestions and the influence of self-hypnosis in

reducing cigarette smoking. All subjects received three one-hour hypnosis

sessions with those still smoking t the end of treatment and recidivists

receiving three additional one-hour treatment sessions. The effects of

additional treatment sessions, hypnotizability and other subject

characteristics on outcome were also examined. Outcome was evaluated one,

two, three, and six months from the end of treatment.

Hypnotic Treatment of Smoking

The present study investigated the effectiveness of positive and nega-
tive hypnotic suggestions, and self-hypnosis for cessation of cigarette
smoking. Prior studies reported between 17% and 88% abstinence rates at six
months, but most were uncontrolled (Holroyd, 1980). Few compared the effec-
tiveness of procedures, or compared forms of suggestions. The present study
compared suggestions offered by Spiegel (1970) and those by Kroger (1977).
Follow-up sessions with recidivists and non-responders was an added
component in this study.

Method

Subjects

Thirty-two subjects were self-referred to a private outpatient clinic.
Subjects were assigned to one of the four treatment groups in a randomized
block design matching for current smoking rate, length of time smoking,
number of previous attempts to quit, and hypnotizability. The four treat-
ment groups are as follows: (1) Kroger (negative) suggestions alone, (2)
Kroger suggestions plus self-hypnosis, (3) Spiegel (positive) suggestions
alone, and (4) Spiegel suggestions plus self-hypnosis.

The positive suggestion condition was based on Spiegel's (1970) proce-
dure. This involved confronting the person with the need to protect his/her
body, which is needed to live, from smoking as a poison to his/her body.
The emphasis was on positive motivation, i.e., what the client is for rather
than what s/he is against. This was expanded upon and examples given.

The negative suggestion condition utilized the procedure reported by
Kroger (1977). Kroger's procedure emphasizes the conversion of the client's
craving or urges for cigarettes into an aversion for them. Suggestions
involved associating a horrible taste and smell with cigarettes and the
negative effects on health and appearance.

Measures

Each subject completed a series of questionnaires about past and current
smoking history, and demographic information. The Self-Efficacy for Smoking
Avoidance questionnaire (DiClemente, 1981) to assess expectations for smo-
king cessation and the Horn-Waingrow scale (Ikard, Green, & Horn, 1969)
utilized in delineating types of smokers were also administered. Hypnotiza-
bility was assessed by standardized audiotaped administration of the Harvard
Group Scale of Hypnotic Susceptibility (Shor, & Orne, 1962) and the
Inventory Scale of Hypnotic Depth (Field, 1965).

Outcome was assessed at post-treatment and one, two, three, and six
months following the last treatment session. At each folow-up, subjects
completed the follow-up and self-efficacy questionnaires. The
hypnotizability measures were also administered at post-treatment and one
month follow-up. At six month follow-up a saliva sample was obtained to
determine saliva thiocyanate levels. The saliva thiocyanate measure repre-
sents a chemical marker for nicotine to provide objective verification of
both subjective and behavioral smoking rate data.

Procedure

Each subject was asked to place their empty cigarette packages in a bag
and to bring it in along with any unsmoked cigarettes to each session. This

allowed for a measure of each subject's smoking rate.

Subjects were required to pay ten dollars at the beginning of treat-
ment. Three dollars to defray the cost of a saliva thiocyanate test, and
the remaining seven a deposit to be returned at six month follow-up to
subjects completing the research program regardless of outcome.

Treatment consisted of three weekly sessions. The first consisted of a
discussion involving how each group member had attempted to quit before, for
how long, why s/he began smoking again, what kept them smoking, and reasons
for wishing to stop. After trance induction by eye fixation and progressive
muscle relaxation the appropriate suggestions (i.e. Kroger or Spiegel) were
given. During the last portion of the session the group discussed what had
occurred.

During the second and third sessions there were preliminary discussions,
covering how each of the group members had fared during the week and prob-
lems they had encountered. The therapist focused on the positive components
of what the subjects had accomplished. There followed repeated trances with
the appropriate suggestions.

In the self-hypnosis conditions, subjects were taught to induce a
trance and, while in trance, they were to review the appropriate set of
suggestions. Subjects in the self-hypnosis conditions were asked to prac-
tice a minimum of four times a day and whenever they felt an urge to smoke.

Subjects not abstinent at post-treatment and those not abstinent at
follow-up were given another treatment session. These additional sessions
followed the same format described above for the second treatment
session. A maximum of three additional sessions were available to each

subject, if necessary.

Figure 1 presents the project procedure in schematic form.

_____

Insert Figure 1 about here

_____

Results

Outcome

Results, to date, indicated that nine of 32 subjects were abstinent, yielding an overall treatment effectiveness rate of 28%. Breakdown of subjects across the treatment conditions is presented in Figure 2. Seven of 19 subjects receiving Spiegel's (positive) suggestions were abstinent while two of 15 subjects receiving Kroger's (negative) suggestions was abstinent $(X^2 = 4.26, p < 0.05)$.

_____

Insert Figure 2 about here

_____

Figure 3 shows the mean daily number of cigarettes smoked for abstinent and nonresponders from baseline to six months posttreatment. A substantial decline in mean smoking rate occurred for all subjects during the treatment period. Seven subjects successful in becoming abstinent had done so without additional treatment sessions during the six months posttreatment. One abstinent subject relapsed during this period. Subjects still smoking at the end of treatment had reduced their daily smoking rate to an average of 67.8% from pretreatment levels. During additional sessions, two additional

subjects achieved abstinence. The average daily smoking rate of nonrespon-
ders increased to 93% of the pre-treatment rate by one month follow-up.

Insert Figure 3 about here

Individual characteristics

The sample was composed of chronic smokers who started at average age
of 16.5 years and had continued smoking for an average of 17.94 years with
3.09 previous attempts at quitting. The average daily smoking rate at pre-
treatment was 29.45 cigarettes per day. Demographic and smoking history are
presented in Tables 1 and 2 for the total sample and by outcome. There were
no differences between abstinent and non-abstinent subjects. However,
analysis by group assignment indicated some trends toward differences the
length of time subjects had been successful in previous attempts and in
their global expectations for success in the treatment program. Subjects
still smoking at the end of treatment were more likely to endorse themselves
at pre-test as habitual smokers (t= -2.94, df=28, p<0.01). There were no
differences between subjects in reasons for smoking.

Insert Table 1 and 2 about here

Figure 4 presents subjects ratings for self-efficacy from pre-test to
six month follow-up by outcome group. There was no significant difference
at pre-test for group assignment or between outcome groups. Abstinent
subjects ratings increased significantly from pre-treatment to post-

treatment (p<0.001) and differed significantly from non-abstinent subjects at post-treatment (p<0.02). At one month follow-up subjects ratings of self-efficacy are predictive of future self-efficacy at two month (r=0.92), three month (r=0.96), and six month (r=0.92) follow-up.

_____

Insert Figure 4 about here

_____

No significant differences were found for hypnotizability in treatment group assignment or outcome. However, as presented in Table 3 there was a trend for scores on the Harvard Group Scale of Hypnotizabilty to increase across repeated administrations. There was no consistent pattern (r=0.43) of change from pre-test to post-test administrations while post-test to 1 month follow-up scores were highly related (r=0.82).

_____

Insert Table 3 about here

_____

Conclusions

To date, results indicated an overall abstinence rate of 28% at six months. Positive suggestions were more efficacious than negative and the effects of adding self-hypnosis cannot yet be determined. Treatment for these chronic subjects was most successful with individuals who did not see themselves as habitual smokers. While ratings of self-efficacy at pre-test and following treatment were not predictive of later self-efficacy, subjects' ratings at one month posttreatment were predictive of later self-

efficacy ratings.

Further analyses will evaluate the influence of self-hypnosis and self-efficacy at one month follow-up in predicting relapse. Subjects' global ratings of expectations for smoking cessation and length of time subjects were previously successful in quitting will be examined more fully.

References

DiClemente, C. C. (1981). Self-efficacy and smoking maintenance: A preliminary report. Cognitive Therapy and Research, 5, 175-187.

Field, P. B. (1965). An inventory scale of hypnotic depth. The International Journal of Clinical and Experimental Hypnosis, 13, 238-249.

Holroyd, J. (1980). Hypnosis treatment for smoking: An evaluative review. The International Journal of Clinical and Experimental Hypnosis, 28, 341-357.

Ikard, F. F., Green, D. E., and Horn, D. (1969). A scale to differentiate between types of smoking as related to the management of affect. The International Journal of the Addictions, 4, 649-659.

Kroger, W. S. (1977). Clinical and experimental hypnosis. Philadelphia: J. B. Lippincott Co.

Shor, R. E., and Orne, E. C. (1962). Manual: Harvard Group Scale of Hypnotic Susceptibility form A. Palo Alto: Consulting Psychologists Press.

Spiegel, H. (1970). Termination of smoking by a single treatment. Archives of Environmental Health, 20, 736-742.

TABLE 1

SUBJECT DEMOGRAPHICS

	TOTAL SAMPLE	ABSTINENT	SMOKING
AGE	34.55	35.55	34.64
SEX			
Female	24	7	14
Male	8	2	6
EDUCATION (yrs.)	14.44	15.14	13.95
MARITAL STATUS			
Single	10	3	7
Married	16	4	12
Separated	2	--	2
Divorced	4	2	2
ANNUAL FAMILY INCOME	15-20,000	15-20,000	15-20,000

TABLE 2

SMOKING HISTORY

	TOTAL SAMPLE	ABSTINENT	SMOKING
Age Started Smoking	16.5	17.33	15.91
Number Years They Have Currently Been Smoking	17.94	17.78	18.00
Number of Previous Attempts to Quit Smoking	3.09	3.33	3.00
Longest Amount of Time (mos.) Without Smoking	7.48	8.11	4.94
Amount of Time (yrs.) Since Last Attempted to Quit	3.48	3.62	2.40
Estimation of Present Smoking Rate (cigarettes per day)	29.45	22.22	32.41
Expectation for Success Now (%)	55.1	66.56	50.41
Does Spouse Smoke?	12	2	10
Amount	29.00	30.00	28.75
Number in Home Who Presently Smoke	0.73	0.67	0.81
Family Smoking History			
Did Father Smoke?	24	6	18
Amount	29.18	33.33	27.62
Did Mother Smoke?	22	4	18
Amount	20.18	15.00	22.12
Did Siblings Smoke?	24	6	18
Number	2.04	1.67	2.15

TABLE 3

HARVARD GROUP SCALE OF HYPNOTIC SUSCEPTIBILITY

Means and Standard Deviations for Entire Sample

	$\bar{x}$	SD
Pre-Test	6.50	2.32
Post-Test	7.10	2.42
1 Mo. Follow-Up	7.93	2.40

Pearson Correlation Coefficients

	Pre-Test	Post-Test
Post-Test	0.43*	
1 Mo. Follow-Up	0.41	0.82**

* $p<0.05$

** $p<0.001$

Figure Captions

Figure 1.   Schematic diagram of the treatment procedure.

Figure 2.   Outcome of subjects for each treatment condition.

Figure 3.   Average number of cigarettes smoked per day from pre-treatment to six month follow-up by outcome, abstinent versus still smoking.

Figure 4.   Mean self-efficacy rating from pre-treatment to six month follow-up by outcome, abstinent versus still smoking.

TREATMENT PROGRAM DESIGN

```
                        ╭─────────╮
                        │ CLIENT  │
                        │ INTAKE  │
                        ╰─────────╯
                             │
   ┌──────────────┬──────────┼──────────────┬──────────────┐
┌──────────┐  ┌──────────┐  ┌──────────┐  ┌──────────┐
│ POSITIVE │  │ NEGATIVE │  │ POSITIVE │  │ NEGATIVE │
│SUGGESTIONS│ │SUGGESTIONS│ │SUGGESTIONS│ │SUGGESTIONS│
│  ONLY    │  │  ONLY    │  │  WITH    │  │  WITH    │
│          │  │          │  │AUTOHYPNOSIS│ │AUTOHYPNOSIS│
└──────────┘  └──────────┘  └──────────┘  └──────────┘
```

1 MONTH
2 MONTHS   FOLLOW   RELAPSE
3 MONTHS   UP

ABSTINENCE
OR
NO FURTHER·
BOOSTER
SESSIONS

APPROPRIATE
BOOSTER Tx
SESSION
MAX = 3

6 MONTHS   FOLLOW   RELAPSE
                 UP   IF RECEIVED LESS THAN
                            MAXIMUM NUMBER BOOSTER
                            SESSIONS

16
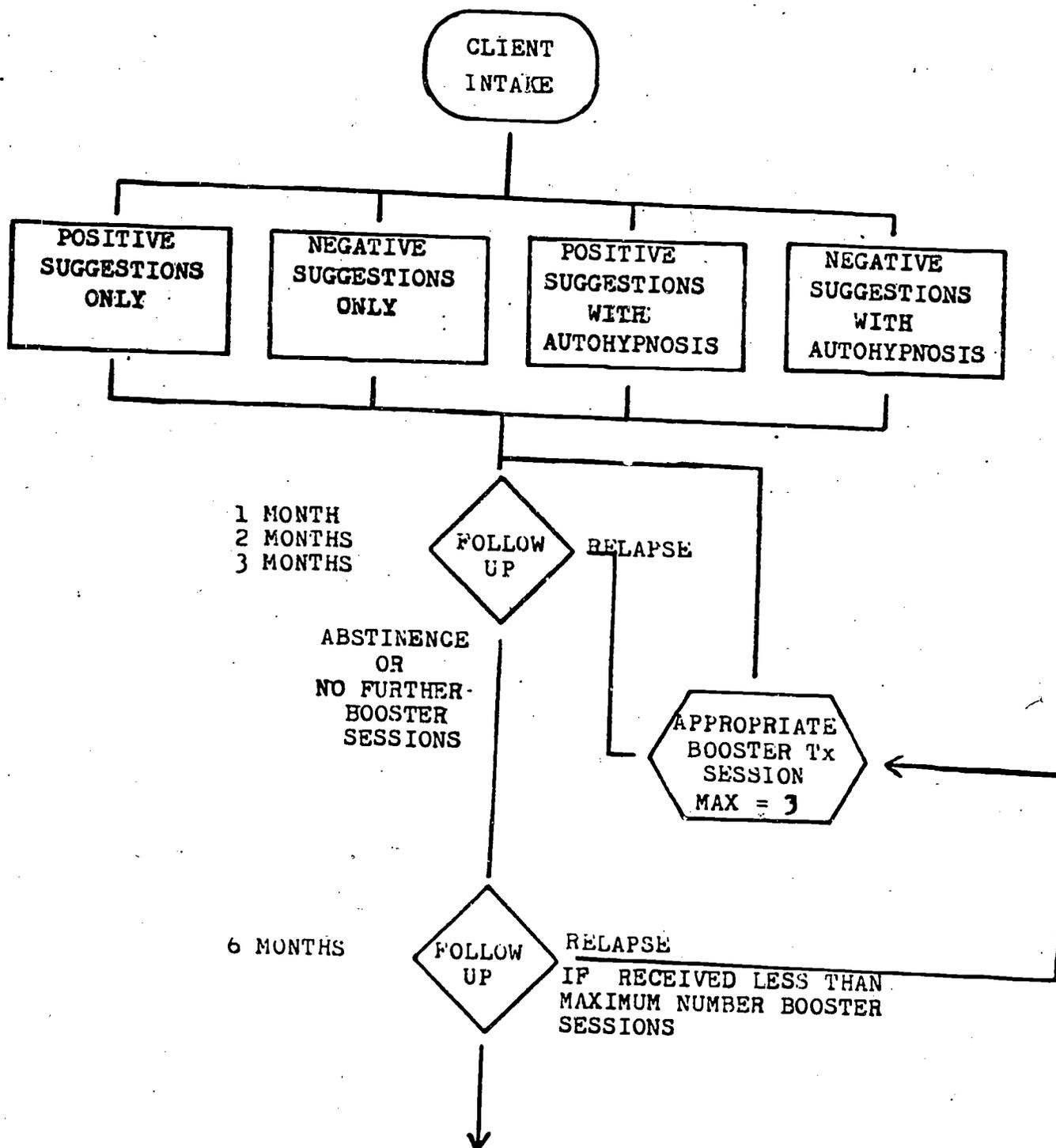
HYPNOTIC TREATMENT OF SMOKING
OUTCOME BY TREATMENT GROUP
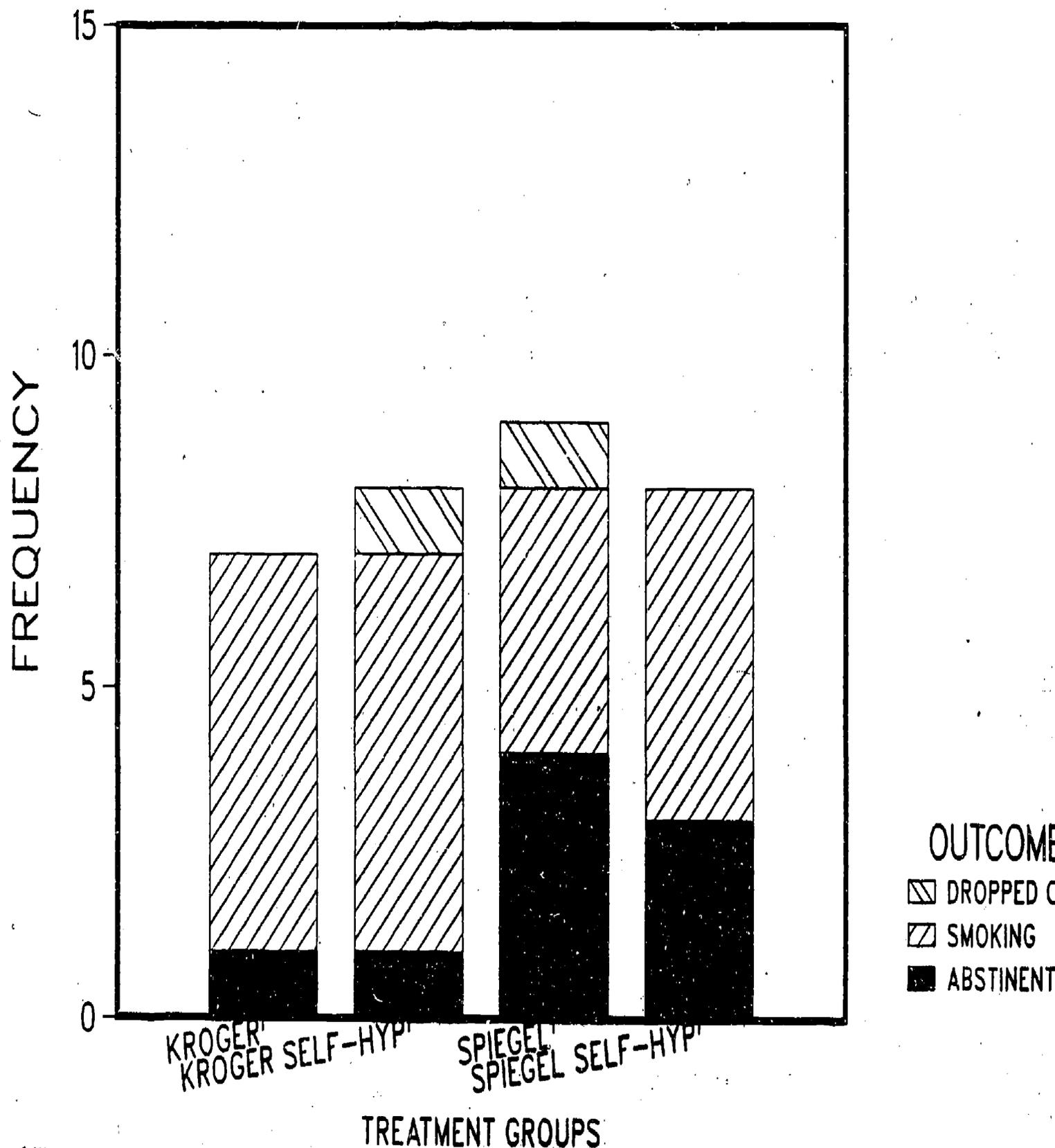
AS OF AUGUST 1983

HYPNOTIC TREATMENT OF SMOKING
GROUP OUTCOME FOR SMOKING RATE
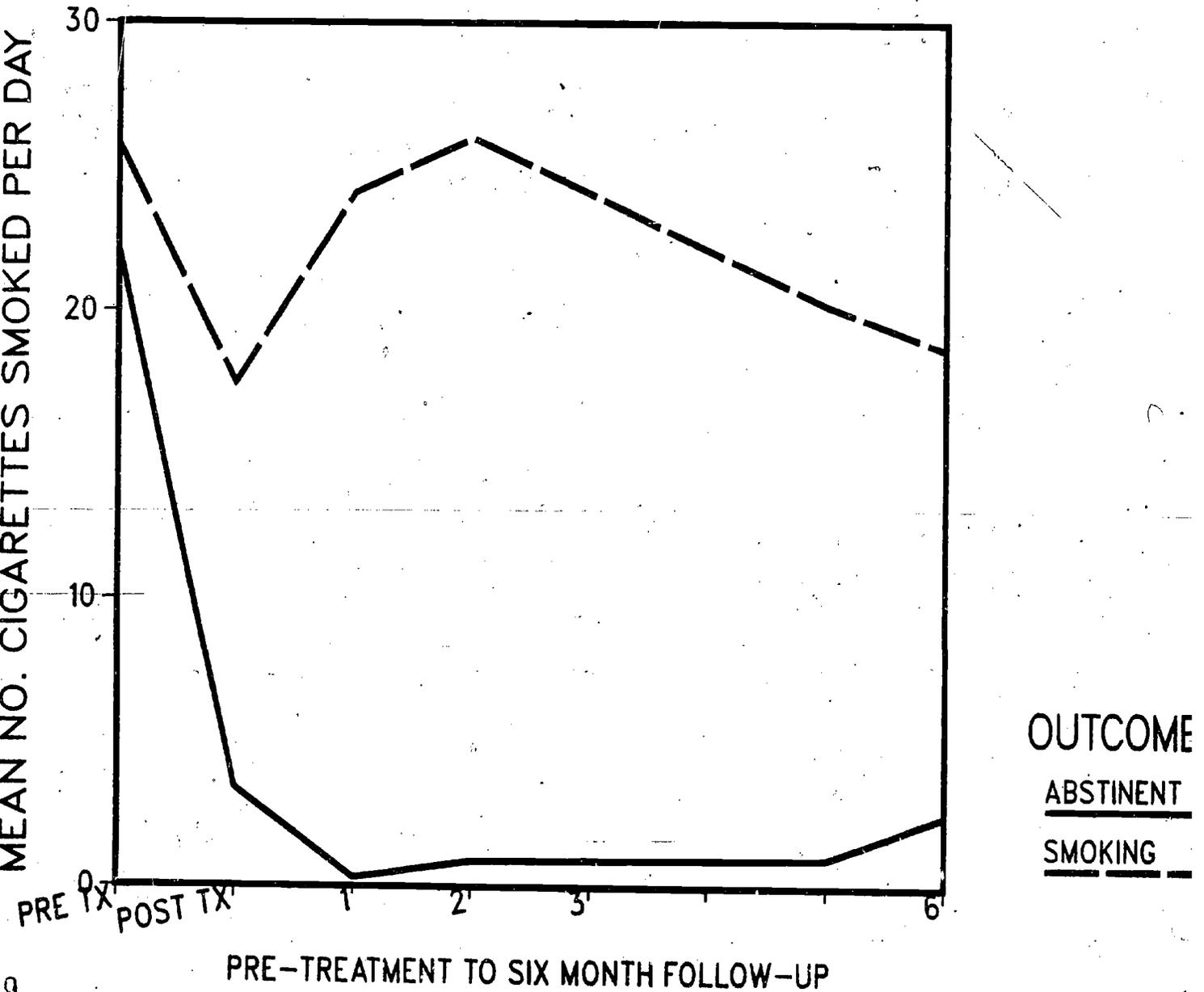
MEAN NO. CIGARETTES SMOKED PER DAY

30

20

10

0

PRE TX   POST TX   1   2   3   6
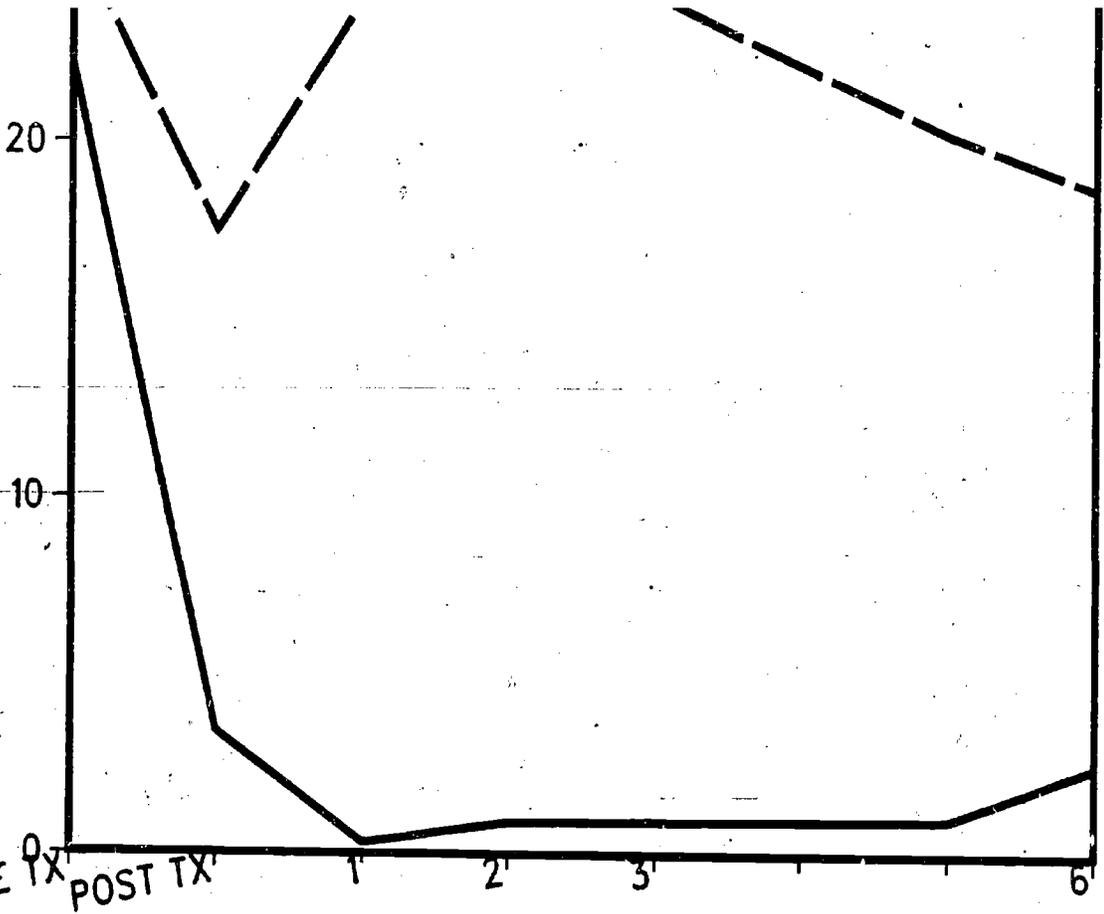
PRE—TREATMENT TO SIX MONTH FOLLOW—UP

OUTCOME

ABSTINENT

SMOKING

9

20

AS OF AUGUST 1983

OUTCOME

ABSTINENT ____

SMOKING ─ ─ ─

PRE TX POST TX 1 2 3 6

PRE–TREATMENT TO SIX MONTH FOLLOW–UP

9

20