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LOCUS OF CONTROL IN LONG- AND SHORT-TERM
ABSTINENCE ALCOHOLIC MALES

A Thesis
Presented to the
Faculty of
California State College
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Psychology

by
Kathleen E. Taylor
October 1975

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Approved by:


Chairperson

12/2/75
Date

ABSTRACT

Twenty-five long-term abstinence male alcoholics, 25 short-term abstinence male alcoholics, and 25 nonalcoholic males were administered the Rotter Locus of Control Scale to determine the relationship between length of abstinence and locus of control in alcoholics. Because normal psychological adjustment seemed to be related to an optimal degree of internality, while in alcoholic populations internality was exaggerated, it was expected that long-term abstinence alcoholics would be more external, approaching normal, than short-term abstinence alcoholics. Contrary to expectations, long-term abstinence alcoholics were significantly more internal than short-term abstinence alcoholics or the nonalcoholic control subjects ($p < .01$). Also contrary to expectations, the short-term abstinence alcoholics were not significantly different from the nonalcoholic control subjects or the Rotter normative sample for males. The prime importance of this study is that it shows differences in locus of control between long- and short-term abstinence alcoholics. This is an important advance in the understanding of the relationship between locus of control and alcoholism because it shows differences between groups of alcoholics on a variable, locus of control, which may have to do with the ability to maintain abstinence from alcohol.

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INTRODUCTION

The concept of locus of control was developed by Rotter (1966) as a part of his social learning theory. It has been viewed as a generalized expectancy variable which reflects the way an individual perceives the effect his behavior is having on his environment and how his actions are producing his desired goals. An internally controlling person perceives the events in his life as having some causal connection to his actions and skill. On the other hand, the externally controlling person perceives the events in his life as being essentially beyond his control. Causal factors for life events are thought to be such things as fate, chance, or powerful others such as God or government. A high score on the Locus of Control Scale (Rotter, 1966) is indicative of externality, while a low score is indicative of internality (Lefcourt, 1966; Rotter, 1966).

When normals, alcoholics, and emotionally impaired subjects were compared on the dimension of internal-external locus of control, it was found that alcoholics tended to be significantly more internal than normal subjects while nonalcoholic, but emotionally impaired subjects, tended to be significantly more external than normal subjects

(Shybut, 1968; Smith, Pryer, & Distefano, Jr., 1971).

Another study which supports this finding is that by Goss and Morosko (1970). They hypothesized that alcoholics would score significantly more external when compared to Rotter's normative group. They administered the MMPI, the Rotter Locus of Control Scale, and the Peabody Picture Vocabulary Test to 220 male and 62 female alcoholics at the Texas Research Institute of Mental Sciences Treatment Program. Contrary to expectations, this alcoholic sample scored consistently and significantly more internal ($p < .0001$) when compared to Rotter's normative group. Significant positive correlations were found between external locus of control and the Pt, D, and F subscales of the MMPI. A significant negative correlation was found with the K subscale of the MMPI. These findings were interpreted to suggest that male alcoholics who score in the external direction on the Rotter Locus of Control Scale exhibit more personality distress, but those alcoholics who indicate greater internal locus of control show more functional defensiveness and/or ego strength.

Mozdzierz, Macchitelli, and Conway (1973), and Nelson and Hoffman (1972) found that alcoholics who leave treatment prematurely show less personality distress and more denial of personality inadequacies, somatic complaints, and interpersonal problems and more defensiveness and repression than alcoholics who stay in treatment. These

above findings and results from other investigations (Lottman, Davis, & Gustafson, 1973), suggest there may be a relationship between locus of control, denial of personality problems, and treatment readiness in alcoholics.

The purpose of the present study is to explore the differences in perceived locus of control in alcoholics who have been successful in treatment with those alcoholics who have not been successful in treatment. Specifically, based upon the findings of the above studies, it is expected that those alcoholics who have been successful in treatment will report a more external locus of control than alcoholics who have not been successful in treatment.

These expectations are based on clinical and experimental studies of alcoholism. Reported clinical impressions have suggested alcoholics as a group tend to be passive-dependent personalities who are unable to accept criticism or failure and, therefore, use denial extensively as a defense mechanism (Coleman, 1964; Hartcollis, 1957).

Several studies relating locus of control and MMPI subscales also support the above clinical contentions. Denial of personality inadequacies, tendencies toward mental disorder and problems with self-control, as measured by the K scale of the MMPI, correlates $-.45$ with internality in normal subjects (Burns, Brown, & Keating, 1971). This relationship is found to be even more significant in alcoholic populations, correlating $-.74$ (Lottman, Davis, & Gustafson,

1973). These findings suggest that normal psychological adjustment is related to an optimal degree of internality and denial, but in alcoholic populations this relationship is exaggerated.

Because of the defensiveness and denial of the alcoholic, many of the studies reviewed suggested treatment approaches similar to the Alcoholics Anonymous (A.A.) approach (Hartcollis, 1971; Hoy, 1973). This program encourages the alcoholic to admit openly and come to realize that he is an alcoholic and, therefore, is not in control of his drinking behavior. The alcoholic is encouraged to give over some of his perceived control to other members of the group (sponsors), and/or to a higher power such as God or some other spiritual belief. It is thought that personality decompensation associated with the increased external locus of control (sense of losing personal control) is compensated for by replacing extreme defenses (denial), with a belief in significant others for support through crisis periods. Thus, the hypothesis of the present study is that alcoholics who are successful in using programs of treatment that have been found to be similar to Alcoholics Anonymous to remain free of alcohol will develop a more external locus of control than alcoholics who have not successfully used such programs. Further, the successfully treated alcoholics will have a locus of control no different than that of a nonalcoholic control group and Rotter's

(1966) normative sample of nonalcoholic males.

Specifically, it is expected that:

1. Successfully treated alcoholics will have a significantly more external locus of control than unsuccessfully treated alcoholics.

2. The successfully treated alcoholic's locus of control will not vary significantly from nonalcoholic subjects' locus of control or from the locus of control of subjects in the normative sample.

3. Unsuccessfully treated alcoholic's locus of control will be significantly more internal than non-alcoholic subject's locus of control and the locus of control of the Rotter normative sample.

4. Nonalcoholic subject's locus of control will not vary significantly from the locus of control of the subjects in the Rotter normative sample.

METHOD

Subjects

Seventy-five male subjects were divided into three groups controlled for age and years of education: An experimental group composed of 25 male alcoholics abstinent from alcohol for one year or more and, therefore, considered to be successfully treated (long-term abstinence group); an experimental group of 25 male alcoholics abstinent from alcohol for less than one year and, therefore, considered to be unsuccessfully treated (short-term abstinence group); and a control group of 25 nonalcoholic males. The standardization sample for the Rotter Locus of Control Scale, consisting of a group of 575 male college students from the Ohio State University, was employed as a second control group.

Subjects for both of the experimental groups were recruited from two alcohol recovery home facilities (facility A and facility B) and one Alcoholics Anonymous group. Subjects from facility A were on court probation for alcohol connected offenses and/or court recommended treatment. Of the 25 subjects recruited from this facility, 11 were in residence at the treatment facility and 14 were participating nonresidential alcoholics. Treatment facility B was a

residential alcoholic recovery home caring for alcoholics during the initial stages of withdrawal from alcohol and the subsequent drying out period of several months. These subjects were referred by the court or by family and/or self-referred to this facility. The length of stay in these facilities ranged from two days to three months. The Alcoholics Anonymous group was a voluntary program to aid in all stages of recovery from alcohol addiction. All the subjects from this group were out of treatment at the time of this study.

While the assumptions of treatment in the hypothesis of the present study were based on the A.A. philosophy, facility A and facility B were not specifically A.A. However, the treatment philosophies of these facilities were oriented along the lines of A.A. Thus, differences in treatment programs was not considered to be a confounding variable. Similarly, even though facility A subjects were in a semicoerced situation, this was also found to be the case for most of the subjects in this study with the exception of the A.A. subjects ($N = 6$). Therefore, forced treatment was not considered to be a confounding variable in the present study.

All of the subjects from these three facilities were ambulatory at the time of the study, although several subjects from facility B showed behavioral symptoms of withdrawal from alcohol such as shaking, watery eyes and nose,

and inability to sit still for more than five or ten minutes.

Procedure

Experimental subjects were contacted during group meetings at the recovery facilities and at open meetings of A.A. They were informed of the purpose of the research and asked to volunteer their time to complete the research questionnaires. Thirty-five of the subjects completed the scales under the supervision of the experimenter during group meetings of the two treatment facilities and after the open meetings of the A.A. groups. Fifteen of the experimental subjects completed the scales without the supervision of the experimenter due to time limitations of the subjects and/or because of the meeting rules of the A.A. groups.

The experimental subjects were assigned to one of the experimental groups depending upon their reported length of abstinence from alcohol. Twenty-five male subjects who had abstained from alcohol for one year or more were assigned to the long-term abstinence experimental group. Twenty-five male subjects who had abstained from alcohol for less than one year were assigned to the short-term abstinence experimental group. The length of abstinence for the long-term abstinence group ranged from 14 months to 27 years, 5 months (mean = 4.44 years; median = 3.46 years). The length of abstinence for the short-term abstinence group ranged from 0 days to 10 months (mean = 3.97 months; median = 2 months).

A group of 25 nonalcoholic males were recruited from a lower middle class industrial complex ($N = 12$), and from freshmen Introductory Psychology classes ($N = 13$). Thus, by comparing the mean or the median length of abstinence of the experimental groups, it appears the groups are appreciably different on this variable to justify length of abstinence as a criterion for grouping.

All subjects completed the Locus of Control Scale (see Appendix A) and an autobiographical questionnaire (see Appendix D). The Locus of Control Scale was used to measure internal-external locus of control. The autobiographical questionnaire was used to determine the subjects' age, educational level, occupational and income histories.

In addition to the Locus of Control Scale and the autobiographical questionnaire, the experimental subjects were administered a treatment history questionnaire (see Appendix B) to determine their length of abstinence and treatment history. The control subjects were administered the Michigan Alcoholism Screening Test: Brief Form (MAST) [Selzer, 1971; Pokorny, Byron, Miller, & Kaplan, 1972] in order to screen out possible alcoholism in the control group (see Appendix C). No alcoholism appeared in the control group on the basis of this test.

An attempt to constitute an index of socioeconomic level using the variables derived from the autobiographical questionnaire was aborted since many of the subjects were

sensitive to questions pertaining to salary and occupation. Alcoholism may cause some social class drift and economic difficulties. Therefore, if an index had been attained, it would probably have misrepresented the actual social values and self-perceptions indicative of the socialization process within the various socioeconomic levels of society. For these reasons education was the only aspect of socioeconomic level evaluated in this study.

Scores from the Locus of Control Scale were evaluated by an Analysis of Variance Model (Kirk, 1968). Treatment groups for the Analysis of Variance were short-term abstinence alcoholics; long-term abstinence alcoholics; non-alcoholic control subjects. The design of the experimental groups was a Completely Randomized Design (Kirk, 1968). The scores in each cell are the Locus of Control Scale scores. The data from the Locus of Control Scale were analyzed by computing the total number of external choices made by each subject (E scores). Mean E scores were then computed for each group.

RESULTS

Analysis of the data showed the long-term abstinence group to be most internal, with a mean E score of 4.44. The lower the score, the more internal the subject. The next most internal group was the short-term abstinence group with a mean E score of 7.47. Finally, the non-alcoholic control group was least internal with a mean E score of 9.36 ($p < .05$). The mean E score for the two alcoholic groups combined was 5.95. These data are shown in Table 1.

An analysis of variance for these three groups showed significant overall differences between groups at the .01 level of significance, $F(2, 72) = 9.4$. However, a Tukey's HSD Test (Kirk, 1968) indicated not all possible pairwise comparisons between group mean E scores were significant, $HSD\ q(72, 2) = 2.80$, $p < .01$. For this comparison, the data from the three experimental groups were used. It was found that the significant differences in mean E scores were between the long-term abstinence group and the short-term abstinence group and between the long-term abstinence group and the non-alcoholic control group. Thus, the mean E score for the long-term abstinence group was significantly different from all other group mean E scores. None of

the other pairwise comparisons between group mean E scores were significantly different. The results of these analyses are shown in Table 2.

Table 1

Mean I-E Scores and Standard Deviations
for Alcoholic and Nonalcoholic Groups

Group	Mean	<u>SD</u>
Short-term Abstinence Alcoholic	7.47	2.43
Long-term Abstinence Alcoholic Group	4.44	2.93
Nonalcoholic Control Group	9.36	3.65

Table 2

All Possible Pairwise Comparisons between Means
for Short-term Abstinence, Long-term
Abstinence and Nonalcoholic Control Groups

Group Mean <u>E</u> Scores		Comparative Differences Between Means		
		Mean 1	Mean 2	Mean 3
Mean 1	Long-term Group	4.44	3.03*	4.92*
Mean 2	Short-term Group	7.47		1.89
Mean 3	Nonalcoholic Control Group	9.36		

*p < .01.

These findings do not confirm hypothesis one, that the long-term abstinence subjects would be significantly more external than the short-term abstinence subjects. The findings are also contrary to the expectations of hypothesis two, that the long-term abstinence subject's locus of control would not vary significantly from the subject's in the nonalcoholic control group.

The Tukey's test also revealed that the mean E score of the short-term abstinence group and the nonalcoholic control group were not significantly different from each other. This result does not confirm hypothesis three, that the short-term abstinence subject's locus of control would be significantly more internal than the nonalcoholic control subject's locus of control.

Analysis of the difference between mean E scores for the Rotter sample and the three groups of the present study using a t test, showed that the significant difference was the one between the long-term abstinence group and the Rotter sample $t(598) = 2.32, p < .01$. The differences between the short-term abstinence group and the Rotter sample and between the nonalcoholic control group and the Rotter sample were not significant.

These findings confirm hypothesis four, that the mean E score for the nonalcoholic control group would not vary significantly from the mean E score of the Rotter sample. These findings do not confirm hypothesis three, that the

short-term abstinence group would be significantly more internal than the Rotter sample. The results of this analysis are shown in Table 3.

Table 3

Comparison between Alcoholic and Nonalcoholic Groups and Rotter's Sample for Males

Groups	<u>t</u> Values	Degrees of Freedom
Short-term Abstinence	1.4	598
Long-term Abstinence	4.74*	598
Nonalcoholic Control	1.52	598

* $p < .01$.

Therefore, contrary to expectations, the subjects in the long-term abstinence group were found to be significantly more internal than subjects in any of the other groups.

It has been noted by Lottman et al. (1973) that alcoholic populations tend to be older than other clinical populations. Although other investigators (Rotter, 1966) have not shown a significant relationship between age and E scores in normal populations, the present investigator thought it might be a variable contributing to the internality of alcoholics. For this reason it seemed necessary

to determine if there was any systematic relationship between age and E scores in the present sample. A Pearson Product Moment Correlation Coefficient was computed between age and E scores for all subjects. The results of this analysis yielded a coefficient of $r = -.01$, suggesting that no relationship between age and internality existed in the present sample. Further analyses were carried out for each group separately. These analyses also yielded no significant results. An analysis of variance for age showed no significant differences between groups on this variable.

Analysis of differences in mean years of education for the three groups, using a t test, showed no significant differences in mean years of education between the three groups of the present study (see Table 4).

Table 4

Mean Age and Years of Education of
Alcoholic and Nonalcoholic Groups

Group	Mean Age	<u>SD</u>	Mean Years of Education	<u>SD</u>
Short-term Abstinence	41.94	7.8	12.6	5.8
Long-term Abstinence	41.16	5.6	12.4	4.9
Nonalcoholic Control	40.11	6.1	13.04	2.4

While no significant differences between groups were found on the variables of years of education and age, since the groups were not matched on these variables it cannot be said there were no differences between groups in years of education or in age.

Mean E scores for the Black and Mexican-American groups were higher than the group mean E scores of white groups; however, the small number of subjects in each group precluded the difference from being statistically significant. These findings support the findings of Lefcourt and Ladwig (1965), who found Black prisoners to be significantly more external than White prisoners of similar social class. It appears from the results that racial composition of experimental groups does affect the absolute group mean E score. However, since in this study all three groups were similar in racial composition, the differences between groups does not appear to be affected by the racial variable. These results are shown in Table 5.

Table 5

Racial Composition and Racial Group Mean \bar{E}
Scores for Each of the Experimental Groups

Group	<u>N</u>	Percentage of Total Group	Mean \bar{E} Score
Long-term Abstinence	25	100	4.44
Black	2	8	8.0
White	18	72	3.88
Mx. Am.	5	20	5.2
Black + Mx. Am.	7	28	6.0
Short-term Abstinence	25	100	7.47
Black	1	4	12.00
White	20	80	6.9
Mx. Am.	4	16	10.2
Black + Mx. Am.	5	20	10.6
Nonalcoholic Control	25	100	9.36
Black	2	7	12.5
White	18	72	8.86
Mx. Am.	5	20	8.82
Black + Mx. Am.	7	28	9.75

DISCUSSION

The interesting but unexpected results require an explanatory discussion of the results and the possible limitations of the present study. These results also provide directions for future research in the area of alcoholism and locus of control.

Factors Involved in the Unexpected Results

Previous studies have shown that hospitalized alcoholics as a group report significantly more internal locus of control on the Rotter Locus of Control Scale and significantly more functional defensiveness, as measured by the K scale on the MMPI, which is generally a measure of ego strength or if exaggerated, denial, and defensiveness, than nonalcoholic normals. Thus, it was hypothesized that as alcoholics were able to maintain longer terms of abstinence from alcohol, they would report a subsequent diminishing internal locus of control, approaching that of the nonalcoholic control group.

The findings of the present study partially support the findings of previous studies in that the mean E score of the long-term abstinence and the short-term abstinence groups combined was significantly more internal than that of the nonalcoholic control group. However, the findings

did not support the hypothesis of the present study, that as alcoholics maintained abstinence for longer periods of time they would also show a decreasing internal locus of control. To the contrary, the findings showed that as length of abstinence increased, alcoholics became more internal.

While these results were not in the predicted direction, in retrospect they may be partially explained in terms of the increased personality distress associated with withdrawal symptoms. Distefano, Pryer, and Garrison (1973), Goss and Morosko (1970), Lottman, Davis, and Gustafson (1972) have found that external locus of control was significantly associated with severe personality distress (in the form of anxiety, alienation, helplessness, and depression) in schizophrenics, neurotics, and depressives. These symptoms are similar to those experienced by alcoholics during the process of withdrawal from alcohol. During this period alcoholics experience severe physical distress, anxiety, and depression. In light of these findings, it is understandable that the subjects in the short-term abstinence group would be experiencing these symptoms and as a result would feel little control over reinforcements. This, in turn, would be reflected in less internal locus of control as compared to subjects in the long-term abstinence group who were not experiencing withdrawal symptoms at the time of the present study.

The above explanation is supported by Rotter (1966), who theorizes that the extent to which a person believes himself to be in control of his personal reinforcements has important implications for his development and adjustment. He has shown that a person who believes he is in control of his personal reinforcements reports an internal locus of control, whereas the person who believes his reinforcements are controlled more by fate, luck, or outside forces beyond his control reports an external locus of control on the Rotter Locus of Control Scale. In terms of this study, it may be seen that alcoholics experiencing withdrawal from alcohol may have a tendency to report a more external locus of control than those alcoholics who have been successfully abstinent for over a year.

Another important consideration in understanding the unexpected results of the present study is the variable of hospitalization. All of the clinical groups in the previously cited investigations were hospitalized at the time of those investigations. The fact that the subjects were hospitalized would imply that they were abstinent for only a short time. In the present investigation long-term abstinence alcoholics were used in addition to short-term abstinence alcoholics. Therefore, the long-term abstinence group is not only different from previous samples in terms of length of abstinence, but also in terms of not being hospitalized. Therefore, it may be that the significant

difference between the short-term abstinence group and the long-term abstinence group in the present study can be accounted for, in part, in terms of being in an in-patient treatment facility as opposed to being at home. Being in a treatment facility may contribute to feelings of helplessness, anxiety, and depression, and be associated with the less internal locus of control of subjects comprising the short-term abstinence group. This possibility is supported by several investigators who have described the changes in patient characteristics as hospitalization continues, in terms of social breakdown, increased hopelessness, and feelings of being victimized (Goldman, Bohr, & Steinberg, 1973; Zusman, 1973).

This study is of particular value because it investigates nonhospitalized alcoholics. If hospitalization is a confounding variable, then the extreme internality of the nonhospitalized long-term abstinence subjects may be reflecting a truer picture of the alcoholic personality than does the relatively less internal locus of control of the hospitalized alcoholic subjects of previous investigations.

Another factor that may have influenced the unexpected results of the present study is ability to succeed in therapy. It has been found that normal clients who begin therapy as internalizers are more likely to be judged as having successful therapy experience than are externalizers (Farkas, 1969; Kirtner & Cartwright, 1968; Perry, 1969).

Furthermore, clients who show successful change during therapy also show increased internalization (Pierce & Schauble, 1969). It may be that the markedly internal long-term abstinence subjects are reflecting an extreme perception of self-control that is needed to be successfully abstinent. The internal locus of control that is needed to be successful in therapy may be exaggerated further by internalization gained from successful therapeutic intervention. This process may be selective in that only those alcoholics who are extremely internal can maintain sobriety, while those alcoholics who are characterized by a more external locus of control may consequently believe they are unable to maintain sobriety. Because of the belief that they are not in control of their own reinforcements, they may remain in an alcoholic group which is not successful in treatment. Therefore, the short-term abstinence subjects of the present study may be reflecting their inability to take advantage of therapeutic intervention.

A factor related closely to the one above, which could have affected the results of the present study, has to do with internality as a contributing factor to the addiction process itself. It has been shown by Oziel, Obitz, and Keyson (1972) that alcoholics, in addition to having a general internal locus of control, more specifically believe that they are in control of their drinking behavior. It was speculated by Goss and Morosko (1970) that alcoholics,

addicted, they may tend to continue to believe they have little control over their drinking behavior and, thus, tend to remain in the group of alcoholics that is unsuccessful in treatment. In relationship to the results of this study, external alcoholics may remain in the short-term abstinence state, while internal alcoholics may go on to become successful in treatment and become long-term abstinence alcoholics. This may have been a contributing factor to the differences between these two groups in the present study.

Another factor which may help to understand the unexpected results of this study is the treatment approach of Alcoholics Anonymous (A.A.), since 84% of the long-term abstinence group and only 12% of the short-term abstinence group claimed to have been directly helped by the A.A. program. The main helping principle of the A.A. program encourages the alcoholic to come to admit to himself that he is unable to control drinking. They are encouraged to turn over some of their perceived personal control to someone or something outside themselves, such as God, a spiritual belief, or an A.A. sponsor. It is believed that only when the alcoholic admits that he cannot control his drinking behavior and gives over his perceived control can he begin to control alcoholism and maintain abstinence. Gradually, the alcoholic is encouraged to live one day at a time without alcohol and to keep in mind his inability to

control his drinking by himself.

The philosophy of A.A. originally led the investigator to expect alcoholics who had abstained a longer period of time would be more external, approaching normal, than alcoholics who had abstained a shorter period of time. The rationale for this expectation has been discussed extensively in the introduction of this study. Because the results of this investigation did not support these expectations, the investigator re-examined the treatment approach of A.A. to see what about it may have led to the high internality of subjects in the long-term abstinence group. In the process of this re-examination, the investigator formulated another basis on which to explain the results: In keeping with Rotter's social learning theory, which emphasizes learning through reinforcement, the principle of A.A. can be understood in terms of behavior shaping through reinforcement. It has been demonstrated that reinforcement is most effective when it is offered frequently and immediately following small increments of the desired behavior until the behavior can be maintained with less frequent reinforcement. Given this, the A.A. principle of one-day-at-a-time successful abstinence can be understood in terms of immediate reinforcement of small, frequent increments of the desired abstinent behavior. Relating this idea to the results of this study, it can be supposed that the extreme internal locus of control for subjects in the long-term abstinence group may be

a result of the daily reinforcement gained by successfully abstaining. This daily reinforcement could begin to develop a feeling of increasing personal control in the successfully abstinent alcoholic which would be reflected in an increased internal locus of control.

Much of the above discussion can be reduced to the possibility that the conceptualization of the present study is incomplete. It may be that alcoholics do, indeed, become more external as they begin recovery, as evidenced by the more external locus of control of the short-term abstinence group. However, it may be that those alcoholics who continue to recover begin to develop a more internal locus of control as they begin to feel more in control of their lives. Thus, the results may be reflecting a more complete picture of the dynamics of the alcoholic recovery process than the investigator originally conceptualized.

Another finding in the results of the present study was that minority subjects tended to be more external than nonminority subjects. The number of the subjects of the sample was not large enough for this difference to be significant. This tendency for minorities to be more external than nonminorities is supportive of findings reported by Rotter (1966), who also found racial minorities to be more external than nonminorities. While these differences indicated that racial composition can influence group locus of control, it is interesting to note that these groups

maintained their ordinal positions on the locus of control dimension regardless of racial composition.

Limitations of the Study

There are several important limitations of the present study. One of these potential limitations has to do with experimenter bias. There are three areas of the problem: First, the experimenter, herself, administered the questionnaires to the subjects. Rosenthal (1966) has pointed out the danger that the experimenter may, unbeknownst to herself, be communicating her expectations for the subjects to respond in a way that is confirming to the study's hypothesis. However, since results were exactly opposite to what the experimenter expected, this potential problem doesn't seem to be a factor in this study.

A second concern about experimental bias has to do with the fact that the subjects were volunteers. It may be that volunteers are a special group in and of themselves. Volunteers, as opposed to those people who choose not to volunteer, may have different personalities and different motivational needs. Thus, alcoholic volunteers may not be representative of alcoholics in general.

The third concern is associated with the method employed for the subjects to complete the research forms. Some of the subjects completed the forms at home and returned them to the experimenter at a subsequent meeting, while some

of the subjects completed the forms in the presence of the experimenter. This could have differentially influenced the way the subjects responded to the questions and, thus, invalidated any comparisons between subjects. The investigator has no data which suggests what, if any, effect this factor may have had on the results.

Another potential limitation of the present study is the confounding variable of hospitalization. Most of the short-term abstinence groups were living in a live-in treatment facility, while the long-term abstinence subjects were mostly living on their own. It is not clear whether the markedly more external locus of control of the subjects in the short-term abstinence group is a result of the lack of abstinence, hospitalization, or both.

A further potential limitation of this study is the small sample size. This study employed 50 male alcoholics as compared to the 200 male alcoholics used in the Goss and Morosko study. Thus, due to the small sample size, the findings of the present study must be considered more cautiously than those of previous studies, which had larger samples. However, the combined group mean E score of alcoholic subjects in this study is very similar to the group mean E score of alcoholics in the Goss and Morosko (1970) study, suggesting that the small sample size may, indeed, be representative.

Finally, the present study is limited in the extent

to which its findings are comparable to previous investigations due to the probable difference in sample. While not stated specifically, one is led to believe that Goss and Morosko (1970) and Lottman et al. (1973) used majority subjects. In contrast, the sample of the present study had a large component of minority subjects.

Directions for Future Research

In the following section directions for future research are discussed. The main finding of this study was that there are differences in locus of control between short-term abstinence and long-term abstinence alcoholics. Whether these differences represent long-term personality characteristics or the more temporary side effects of a particular treatment phase is not clear from the present results. Future research could determine the actual nature of this relationship. Perhaps a longitudinal study of alcoholics in treatment could determine if locus of control is affected by length of abstinence or if the ability to maintain abstinence is related to an internal locus of control.

Another longitudinal study of alcoholics in treatment could determine if the A.A. program affects a change in locus of control in alcoholics. It was speculated above that the subjects in the long-term abstinence group might be more internal than the subjects in the short-term abstinence group because of the effect of the A.A. program to

which most of the subjects in the long-term abstinence group were exposed. The A.A. treatment philosophy emphasizes one-day-at-a-time abstinence, which may be seen as small increments of reinforced behavior. Therefore, it could be expected that as alcoholics move successfully through the A.A. program, there would be an increase in internal locus of control over time.

Another factor which needs to be investigated is the effect of hospitalization on locus of control. It is not clear from the results of this study whether short-term abstinence or hospitalization contributed to the external locus of control of the subjects in the short-term abstinence group. Perhaps a study using hospitalized and non-hospitalized short-term abstinence alcoholics could determine whether short-term abstinence, hospitalization, or both are more related to externality in alcoholics. This seems to be an important variable to be understood, due to the fact that the feelings of helplessness and lack of control related to externality do not seem conducive to rehabilitation.

A final question that is yet unanswered concerns the possible effect of locus of control on the etiology of alcoholism. Since all of the previous studies cited, as well as the present study, measured locus of control in alcoholics who were presumably in the advance stages of alcoholism, it is not known if internality is a personality

trait that may contribute to the development of alcoholism,
or if it is a result of becoming an alcoholic.

CONCLUSIONS

This study was based on a theory of social learning developed by J. B. Rotter. Rotter theorized that the extent to which a person believes himself to be in control of his personal environment has important implications for his development and adjustment. Furthermore, the potential for any behavior to occur in any situation is a function of the person's personal expectancies that a given behavior will secure the available reinforcement. These expectancies are learned through the compilation of patterned sequences of past reinforcements. Important for this chain of learning events is whether the person feels he has some control over himself and his environment. The opposite of perceived control has been viewed as a matter of fate, chance, luck, or being helpless in the face of powerful outside forces. In this condition reinforcements are not perceived as being patterned or meaningful or having understandable relationships to personal behavior. Rotter labels those persons whose expectancies of reinforcement are perceived to be contingent on personal behavior as internal controllers, and those persons whose expectancies of reinforcement are seen to have little relationship to their behavior as external controllers.

Extensive research has been carried out studying the personality variable of locus of control both among normal and psychopathological groups of subjects. An important, unexplained finding has emerged from these studies that serves as the starting point for the present investigation: While subjects representing various clinical groups (schizophrenics, neurotics, and depressives) were found to be significantly more external than normal subjects, alcoholics were found to be significantly internal as compared to normal subjects and other clinically-grouped subjects.

It seemed to this investigator that the idea of locus of control might have to do with successful and unsuccessful abstinence from alcohol. If the hospitalized alcoholics represented by previous studies were significantly internal when compared to normals, they might become more external, approaching normal, as they successfully maintained abstinence and, thus, become more normal themselves.

Consequently, the present study investigated the relationship between locus of control and length of abstinence in short- and long-term abstinence alcoholic groups, expecting that the long-term abstinence group would be more external than the short-term abstinence group.

The Rotter Locus of Control Scale was administered to 75 males; 25 of which were abstinent from alcohol for more than one year (long-term abstinence group), 25 of which were abstinent for less than one year (short-term abstinence

group), and 25 nonalcoholic control subjects. Further comparisons were made to the normative sample of college males used to standardize the Rotter Scale (Rotter, 1966).

The results did not confirm the hypothesis of the present study. Contrary to expectations, the results showed that those alcoholics who were abstinent for more than one year were significantly more internal than those alcoholics who were abstinent for less than one year and the nonalcoholic control subjects.

Speculations concerning these unexpected results were made. It may be that the externality of the subjects in the short-term abstinence group reflects personality distress which accompanies withdrawal from alcohol. Also, it may be that the short-term abstinence subject's external locus of control (i.e., inability to see a causal relationship between personal effort and reinforcement) is a contributing factor to their apparent inability to successfully maintain abstinence for a long period of time. In regard to the long-term abstinence group, it may be that the internality of these subjects reflects a highly selective process whereby only those alcoholics who were internal to begin with could take advantage of therapeutic intervention. On the other hand, subjects in the long-term abstinence group may have increased their internalizing behavior due to successful therapeutic experiences. Furthermore, the treatment philosophy of a particular program, such as A.A., may produce

internalizing behavior in its successful practitioners.

Limitations of this study were largely associated with methodological problems. There was the possibility of experimenter bias due to the unintentional communication of the desired results from the experimenter to the subjects (Rosenthal, 1966). Additionally, it is possible that using volunteers solely could have introduced confounding personality variables which may have affected the results. Also, not all research forms were completed under controlled conditions, thus limiting experimental control and the subsequent comparability between subjects. Another confounding variable that arose because of the method of recruitment is that of hospitalization. Most of the short-term abstinence subjects were hospitalized at the time of this study. This raises the question of comparability between groups and whether the external locus of control of the short-term abstinence subjects was associated with length of abstinence or the effects of hospitalization.

Generalization of the results are limited due to the small sample size and the large racial minority component of the groups in the present study. Lastly, the results of this study suggested a number of possibilities for future research in the area of alcoholism and locus of control.

The prime importance of the present study is that it shows differences in locus of control between long- and short-term abstinence alcoholics. Previous studies determined

that alcoholics as a group were more internal than normals and other clinical groups. This study indicates that only long-term abstinence alcoholics are significantly more internal than normals, while short-term abstinence alcoholics are not significantly different from normals. This is an important advance in the understanding of locus of control and alcoholism because it shows differences between groups of alcoholics on a variable, locus of control, which may have to do with the ability to maintain abstinence from alcohol and the ability to succeed in therapy.

APPENDIX A

Instructions for the Locus of Control Scale

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you are concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: Obviously, there are no right or wrong answers.

In some instances you may discover that you believe both statements or neither one. In such cases be sure to select the one you more strongly believe to be the case as far as you are concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices. Work quickly and carefully. Do not skip any statements. Circle the letter a or b corresponding to your choice for each item. Go ahead with the scale.

Internal-External Locus of Control Scale

1. a. Children get into trouble because their parents punish them too much.
b. The trouble with most children nowadays is that their parents are too easy with them.
2. a. Many of the unhappy things in people's lives are partly due to bad luck.
b. People's misfortunes result from the mistakes they make.
3. a. One of the major reasons we have wars is because people don't take enough interest in politics.
b. There will always be wars, no matter how hard people try to prevent them.
4. a. In the long run people get the respect they deserve in this world.
b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5. a. The idea that teachers are unfair to students is nonsense.
b. Most students don't realize the extent to which their grades are influenced by accidental happenings.
6. a. Without the right breaks one cannot be an effective leader.
b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7. a. No matter how hard you try some people just don't like you.
b. People who can't get others to like them don't understand how to get along with others.
8. a. Heredity plays the major role in determining one's personality.
b. It is one's experiences in life which determine what they're like.
9. a. I have often found that what is going to happen will happen.
b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

GO ON TO THE NEXT PAGE.

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10. a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
 11. a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. Getting a good job depends mainly on being in the right place at the right time.
 12. a. The average citizen can have an influence in government decisions.
b. This world is run by the few people in power, and there is not much the little guy can do about it.
 13. a. When I make plans, I am almost certain that I can make them work.
b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
 14. a. There are certain people who are just not good.
b. There is some good in everybody.
 15. a. In my case getting what I want has little or nothing to do with luck.
b. Many times we might just as well decide what to do by flipping a coin.
 16. a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
 17. a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. By taking an active part in political and social affairs the people can control world events.
 18. a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
b. There really is no such thing as "luck".
 19. a. One should always be willing to admit mistakes.
b. It is usually best to cover up one's mistakes.
 20. a. It is hard to know whether or not a person really likes you.
b. How many friends you have depends upon how nice a person you are.

GO ON TO THE NEXT PAGE.

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21. a. In the long run the bad things that happen to us are balanced by the good ones.
b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. With enough effort we can wipe out political corruption.
b. It is difficult for people to have much control over the things politicians do in office.
23. a. Sometimes I can't understand how teachers arrive at the grades they give.
b. There is a direct connection between how hard I study and the grades I get.
24. a. A good leader expects people to decide for themselves what they should do.
b. A good leader makes it clear to everybody what their jobs are.
25. a. Many times I feel that I have little influence over the things that happen to me.
b. It is impossible for me to believe that chance or luck plays an important role in my life.
26. a. People are lonely because they don't try to be friendly.
b. There's not much use in trying too hard to please people, if they like you, they like you.
27. a. There's too much emphasis on athletics in high school.
b. Team sports are an excellent way to build character.
28. a. What happens to me is my own doing.
b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29. a. Most of the time I can't understand why politicians behave the way they do.
b. In the long run the people are responsible for bad government on a national as well as on a local level.

THANK YOU VERY MUCH.
REST YOUR EYES FOR A MINUTE OR TWO
AND THEN GO ON TO THE NEXT TEST.

APPENDIX B

Alcoholic Treatment History Questionnaire

1. How long has it been since you considered yourself to be a practicing (drinking) alcoholic?

Circle one of the below:

- a. 0 - 6 days
- b. 7 days to one month
- c. one to three months
- d. three months to a year
- e. one to two years
- f. two years or more

2. Do you attribute your success at staying sober to the Alcoholics Anonymous program?

Circle one of the below descriptions:

- a. yes
- b. no
- c. partly (explain)
- d. another program or combinations of programs helped me most.

3. Have you tried the A.A. program? If so, for how long did it help you?

- a. A.A. was not able to help me with my drinking problem.
- b. A.A. was able to help me stop drinking for
_____ days
_____ months
_____ years

4. A.A. has not helped me maintain my sobriety, however, I have maintained my sobriety with the help of _____.

5. I am a recovering alcoholic. I am not drinking at this time.

- a. yes
- b. no

6. At this time, I do want to maintain my sobriety?

- a. yes
- b. no

THANK YOU FOR YOUR HELP.

APPENDIX C

Michigan Alcoholism Screening Test

Instructions

Below are ten questions you are to answer yes or no. There are no right or wrong answers, just answer to the best of your ability.

When you have finished answering all of these questions you may go on to the next set of questions. Work as quickly as possible and do not skip any of the questions.

Michigan Alcoholism Screening Test

Questions	Circle Answers Below	
1. Do you feel you are a normal drinker?	Yes	No
2. Do friends or relatives think you are a normal drinker?	Yes	No
3. Have you ever attended a meeting of Alcoholics Anonymous?	Yes	No
4. Have you ever lost friends boyfriends/girlfriends because of drinking?	Yes	No
5. Have you ever gotten into trouble at work because of drinking?	Yes	No
6. Have you ever neglected your obligations, your family, or your work for two or more days in a row because you were drinking?	Yes	No
7. Have you ever had delirium tremens (DTs), severe shaking, heard voices, or seen things that weren't there after drinking?	Yes	No

Questions

Circle Answers
Below

- | | | |
|--|-----|----|
| 8. Have you ever gone to anyone for help about your drinking? | Yes | No |
| 9. Have you ever been in the hospital because of drinking? | Yes | No |
| 10. Have you ever been arrested for drunk driving or driving after drinking? | Yes | No |

Please go on to the next series of questions.

APPENDIX D

Autobiographical Questionnaires

Autobiographical Questionnaire for Control Group

Please fill out the information below: Note: Your name is not required on this form.

Code No. _____

Age _____

Occupation

5 years ago _____

10 years ago _____

15 years ago _____

20 years ago _____

25 years ago _____

Annual Income

5 years ago _____

10 years ago _____

15 years ago _____

20 years ago _____

25 years ago _____

Education (in years)

0 1-6 7-9 10-11 12 College: 1 2 3 4 More

Ethnic Origin (Circle appropriate category)

Caucasian Mexican-American Negroe Oriental

Autobiographical Questionnaire for Alcoholic Groups

Please fill in the information below: Note: Your name is not required on this form.

Code No. _____

Age _____

Occupation

5 years ago _____

10 years ago _____

15 years ago _____

20 years ago _____

25 years ago _____

Annual Income

5 years ago _____

10 years ago _____

15 years ago _____

20 years ago _____

25 years ago _____

Education (In years) (Circle one)

0 1-6 7-9 10-11 12 College: 1 2 3 4 More

Ethnic Origin (Circle appropriate category)

Caucasian Mexican-American Negroe Oriental

About how many years ago did your alcohol connected disability begin _____.

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