REVIEW OF THE LITERATURE
In this chapter, findings of the research studies on various related aspects of alcoholism have been reviewed. The following section deals with the literature on the behavioral techniques that have been used in the therapeutic intervention of alcoholism. This section also deals with the variables that have been known to influence the therapeutic outcome in alcoholism. Precisely, presentation in this chapter includes the following:

I. Behavioral treatment techniques:
1) Faradic aversion therapy;
2) Covert sensitization;
3) Social skills training;
4) Alcohol education;
5) Behavioral counseling;
6) Broad spectrum treatment approaches.

II. Factors related to alcoholism:
1) Locus of control;
2) Personality;
3) Alcohol related expectancies.

III. Factors associated with treatment outcome.

IV. Factors associated with drop-outs.
FARADIC AVERTION THERAPY

In the literature on faradic aversion therapy, Kantorovich (1929) first reported its application in the treatment of alcoholism. In a group of 20 alcoholics, he repeatedly paired the sight, smell and taste of alcoholic beverages with electric shock. After a follow-up ranging from three weeks to 20 months, it was found that 14 of the treatment group remained abstinent. On the other hand, 7 of 10 control group clients receiving hypnotic suggestion or medication reverted back to their drinking patterns in a few days after discharge from hospital.

McGuire and Vallance (1964) treated a 40-year old male alcoholic with electrical aversion. The treatment procedure involved presentation of slides of alcoholic stimuli and actual glasses of alcoholic beverages, followed by shock. Both sets of stimuli were interspersed with neutral stimuli. A six-month follow-up showed complete abstinence.

Hsu (1965) used an avoidance learning situation in which clients drank alcoholic and nonalcoholic beverages. Severe electric shock was administered to the head following ingestion of alcoholic beverages, but shock could be avoided by choosing nonalcoholic drinks. Treatment was administered for five days with booster sessions at one and six months after discharge. 16 of 40 clients refused to complete five
scheduled sessions. Results indicated that slightly less than 50% of clients were abinent at varying follow-up visits ranging 2-6 months.

McCance and McCance (1969) studied the efficacy of faradic aversion therapy in alcoholism. 89 clients with alcoholism were randomly assigned to group psychotherapy or aversion treatment. These procedures supplemented general ward treatment. Aversion therapy involved the delivery of shock to one hand as the client sniffed his favourite alcoholic beverage. 24 treatment sessions spreading over a six-weekly interval were given. Group psychotherapy conducted twice weekly, involved an attempt to make clients examine their behavior from a psychodynamic view point. No differences were found between the results of group psychotherapy or aversion therapy in follow-up evaluations at 6- and 12-month intervals.

Bhakta (1971) studied the effectiveness of electrical aversion therapy in 20 alcoholics. Electrical aversion therapy was given followed by booster sessions at intervals. Aversion was terminated when the client exhibited unwillingness to sip alcohol. Three months after the completion of treatment, 3 clients were abstinent, 8 became controlled drinkers and 9 were unchanged; at a 12-month follow-up, the corresponding number was 1, 7 and 12.
Cleason and Malm (1973) treated 26 male alcoholics with electrical aversion therapy. During the first four sessions shocks were given with 100% reinforcement in order to accelerate the conditioning. The following sessions were given with 50% intermittent reinforcement randomly in order to prevent too quick an extinction. The electric shock was given half a second after the client's response. Two groups of clients were involved. Group-I had a complete program comprising of various parts i.e., reading, imagination, smelling, looking at slides, replies to questions and situations from a tape recorder, and putting the glass near mouth. Group-II was given the same program but without tape-recorder and slides. At follow-up after 12 months, 24% had not had any relapse; 12% were lost during follow-up period, and 64% had relapse. Authors indicated that aversion therapy without supplementary treatment can be used with clients who have intact social relationships and regular work. Treatment of advanced states of alcoholism requires supplementary treatment in the form of anxiety-relieving methods, psychosocial support and teaching the client new and alternative behavior.

In a study by Miller, Hersen, Eisler and Hemphill (1973) of 30 alcoholics, 10 were assigned to an aversive conditioning group, 10 to a control conditioning group and 10
to a group therapy. The treatment lasted 10 days. The instructions given to all clients were designed to produce high expectancy of therapeutic success. To assess alcohol consumption and attitudes toward alcohol, an analogue taste-test was given, once a day over three consecutive days before and after treatment. No statistically significant difference in reducing alcohol consumption or attitudes towards alcohol was found among the groups. Trends in the data support the contention that effects of electrical aversion may be more related to such factors as therapeutic instructions, expectancy, specificity of the procedure or experimental demand characteristics than to conditioning factors.

Vogler, Compton, and Weissback (1975) found that a multimodal program including electrical aversion produced better results than a program consisting of alcohol education and behavioral counseling alone. The first group showed 80% reduction in drinking as compared with a 42% reduction in the second group.

Caddy and Lovibond (1976) randomly assigned clients to two types of multimodal program, i.e., with and without the electrical aversion therapy. They found that removal of the electrical aversion component resulted in a modest decline in overall improvement rate (60% vs 80%).
Glover and McCue (1977) studied the efficacy of electrical aversion in alcoholics. In an average of 12 daily 45-minute sessions, electric shocks were given to 48 alcoholics on a varied reinforcement schedule of 3-7 secs after they sipped but not swallowed their favourite alcohol. The shocks were terminated when the clients spit out alcohol. Follow-up data at 6 months revealed that 39 clients who completed the electrical aversion therapy had significantly better outcome than a matched group of 46 controls who received a 'conventional' treatment.

Jackson and Smith (1978) compared the efficacy of two aversion therapy techniques. Of the 344 clients, 287 completed 3-5 sessions of chemical aversion therapy and 57 completed 3-5 sessions of faradic aversion therapy. Similar proportion of chemical and faradic aversion therapy groups reported being abstinent at follow-up (57% vs 55%). The authors suggested that faradic aversion treatment might be an effective alternative to chemical aversion therapy.

Miller (1978) compared three therapies designed to reduce the alcohol consumption of problem drinkers. Clients were randomly assigned to one of three treatment groups: 1) aversive counterconditioning (AC) using self-administered electrical stimulation; 2) behavioral self-control training (BT) including self-monitoring and instruction in 'functional
analysis'; and 3) a 'controlled drinking composite' (CD) including blood alcohol awareness training, discriminated aversive counterconditioning, self-monitoring and rate-control training. All therapies consisted of 10 weekly sessions. All three therapies produced significant reduction in clients' weekly alcohol consumption and peak blood alcohol concentration. These gains were largely maintained over one year follow-up. CD proved least cost-effective, requiring four times more therapist contact than either AC or BT.

Wiens and Menustic (1983) conducted one- and three-year follow-up of 685 alcoholic clients treated with aversive conditioning during a two-week in-patient program, followed by periodic single-day reinforcement sessions. 63% of the subjects reported continuous abstinence for one year and 31% were abstinent after three years. Results indicated that continued after care was an important component of successful treatment. Findings support the use of aversive techniques in the treatment of alcoholism.

Chakravarthy, Kumaraiah and Mishra (1990) assessed the efficacy of electrical aversion therapy combined with covert sensitization in alcoholism. 11 clients were treated with electrical aversion therapy. 9 clients improved 'remarkably' and 2 clients had 'moderate' improvement. The results indicated efficacy of these techniques.
Kishore and Dutt (1986) in a study, subjected 60 alcoholics to two types of treatment: 1) electrical aversion therapy or 2) electrical aversion therapy plus psychotherapy. Approximately 50% of each group achieved abstinence and 80% showed improvement through 6 months follow-up. Groups did not differ in rates of improvement.

Ojha (1986) attempted to examine the efficacy of faradic aversion therapy in 14 alcoholics. Findings indicated that following aversion therapy, there was a shift in attitudinal scores indicating a significant change in the attitudes towards alcohol from positive to negative. It also indicated a decrease in the motivation towards alcohol following treatment.

Blake (1965, 1967) used a method in which sipping alcohol was followed by shock and shock termination was contingent on alcohol expectoration. One group of clients received this treatment in combination with relaxation training and a second group received only aversion therapy. Conditioning required an average of less than 5 hours per client. At 1-year follow-up, 46% of the relaxation plus aversion therapy group subjects were found to be abstinent, and 13% were reported to be improved. Only 23% of the subjects receiving aversion therapy alone were reported abstinent and 27% were improved.
Michaelsson (1976) studied the efficacy of electrical aversion therapy in 12 clients and compared with 24 alcoholics who were given routine hospital treatment (control group). Unpleasant electric shocks were given on a 50% intermittent reinforcement schedule of about 0.5 secs after drinking alcohol; 60-90 minute aversion therapy sessions were given 3-4 times a week for 3-5 weeks. After a year, 10 of 12 clients and all of 24 of the control group had relapsed, requiring readmission; 10 and 5 relapsed after 6 months; and 3 and 9 after three months.

Cannon, Baker and Wehl (1981) reported 6- and 12-month follow-up data for 20 male alcoholics who received either multifaceted in-patient alcoholism treatment program alone (controls) or emetic or electrical aversion therapy in addition to the above program. Results indicated that emetic treatment exerted a modest beneficial effect at the 6-month follow-up but control and emetic subjects did not differ at the 12-month follow-up. Both emetic and control subjects had more number of days of abstinence than subjects treated with faradic aversion at both the 6- and 12-month follow-up.

Regester (1971) compared aversion therapy alone with a combination of treatment that supplemented shock with ideational cues that were recorded, i.e., invitations and
encouragement to drink. These ideational cues were presented to the clients prior to electrical aversion therapy. This recorded material was selected by alcoholics and professionals as reflecting feelings, attitudes, excuses and temptations typically associated with alcoholic drinking episodes. Conditioning methods were similar to Blake's (1965). This study also included two control groups: a milieu therapy group and a shock exposure control group. Milieu therapy clients received no other treatment. Alcoholics of the shock-exposure group were given random shock plus the same exposure and ideational cues as the combination treatment group. 55 male alcoholics and 5 community volunteers participated. 44 clients were interviewed six months after treatment. Statistical analysis of the data failed to provide evidence that aversion therapy alone or in conjunction with ideational cueing provided any therapeutic benefit. Regester (1971) concluded that aversion therapy, per se, contributes to only a small part to effective treatment of alcoholism.

Cannon (1982) reviewed the literature on aversion therapy in 1980s. He concluded that the role of aversion therapy in a comprehensive treatment program should be to help the alcoholics remain abstinent, while other problems are to be tackled using other treatments.
To summarize, the literature on electrical aversion therapy suggests that it has been in use since a long time in the history of the treatment of alcoholism. Various modifications have been used in the application of electrical aversion therapy. Some studies have used faradic aversion therapy as a component along with other techniques in the treatment of alcoholism. The results of various studies related to electrical aversion therapy demonstrate equivocal results. Some studies have proven its efficacy in dealing with alcoholism. However, other studies have neither proven its efficacy nor its superiority over other techniques, in the management of alcoholism. These mixed findings may be due to inadequate and inappropriate usage of procedures and duration of therapy.

COVERT SENSITIZATION

Cautela (1966) first used covert sensitization in a 20-year-old female client with excessive drinking. Two days after six trials of covert sensitization she refused a drink for the first time in five years. Further, she reported no drinking when she visited a bar. A week later, she reported no interest in hard liquor. During an 8-month follow-up she had remained totally abstinent.
Anant (1967) treated 26 alcoholics with verbal aversion therapy and 25 of these completed the program. Eleven clients were treated individually and 15 were seen in small groups. All clients who completed verbal aversion therapy had extended periods of abstinence following therapy. All these subjects remained totally abstinent for a period ranging 8-15 months.

Ashem and Donner (1968) investigated the effectiveness of covert sensitization in alcoholics. Experimental subjects imagined the actual taste and consumption of alcoholic beverages. Suggestions of nausea and vomiting were given immediately after the subject signalled experiencing the taste of alcohol. Relaxation was made contingent upon pushing away an imaginary bottle of liquor or engaging in other activities incompatible with alcohol intake. Treatment consisted of nine sessions of 30-40 minutes each. Control subjects did not receive covert sensitization, but all the subjects participated in other activities of the treatment unit, including group psychotherapy. Results showed a significant difference between treatment and control subjects. 40% of treated subjects remained abstinent while all nontreated controls had resumed drinking.

Maletzky (1974) studied the efficacy of 'assisted' covert sensitization in alcoholism. Of 10 alcoholics, five
were in a treatment group and five were in control group. The treatment comprised of a list of usual drinking settings and a list of disgusting scenes. Items from each kind of scenes were combined and presented in each of three 30-minute sessions weekly for an average of twelve sessions. Valeric acid (a noxious substance) was presented along with the disgusting scenes in each session. The odour was also presented in association with the feeling and sight of beer cans. The clients in the treatment group immediately and 6 months after completion of treatment reported reduced frequency of drinking and reduced urge to drink than did control group.

According to Elkins (1976) covert sensitization can be used in combination with other treatments; it enhances the client's self-esteem by providing a form of active participation in his own therapy.

According to Miller (1976) covert sensitization is best viewed as a self-control strategy that can be used in suppressing alcohol consumption. It also enhances generalization to the environment since the client can use the aversive images to control urges in the natural environment (Miller and Barlow, 1973).

Tepfer and Levine (1977) used covert sensitization in a 58-year old male alcoholic with somatic problems. During
treatment sessions he was asked to imagine himself drinking and experiencing unendurable pain emanating from his ulcers and damage to his stomach and liver. Then a relief scene was presented. The client reported to have decreased his daily intake of alcohol over five weeks and then abstained completely during the final two weeks of treatment. He was abstinent at 6-, 12-, and 18-months of follow-up. It was concluded that covert sensitization can be effectively used in the treatment of alcoholism in individuals with pre-existing 'somatic concern'.

Elkins (1980) investigated the efficacy of covert sensitization. 57 clients were given the covert sensitization in which imagery of scenes of alcohol intake was paired with nausea induced by verbal suggestion. Verbally induced nausea was designated as "demand nausea" and the automatic response to imaginary drinking scenes was called "conditioned nausea". Conditioned nausea was developed by 24 of the 35 nausea responders. Mean total abstinence after discharge was 13.7 months for the conditioned nausea subjects, whereas it was 4.5 months for the demand nausea subjects. Of the followed-up conditioned subjects, 9 were abstinent for ≥6 months and 6 were drinking in a controlled fashion. None of the 10 followed-up demand nausea subjects was abstinent at 6 months. In this latter group one was drinking normally.
Miller and Dougher (1989) assigned 29 alcoholics randomly to one of three covert sensitization procedures varying in the nature of stimulus elements in aversion scenes. Group-I received standard nausea creating imagery, whereas Group-II received similar scenes "assisted" by noxious odours. Scenes of imagery used in group-III were unrelated to nausea but focussed on disturbing potential consequences of drinking. Favourable outcomes at 18 months (abstinence, controlled or improved) were observed in 45%, 56% and 67% of clients in each group, respectively. The groups did not differ significantly.

Hedberg and Campbell (1974) compared covert sensitization (CS), electrical aversion (EA), systematic desensitization (SD) and behavioral family therapy (BFT) by randomly assigning problem drinkers, with a goal of either abstinence or controlled drinking. With abstinence as the treatment goal, rates of abstinence and 'much improved' at 6 months were 9/10 in the BFT group, 9/10 in the SD group, 9/14 in the CS group and 0/4 in the electrical aversion therapy group. Covert sensitization was found to be less effective than either SD or BFT but compared favorably with EA.

Telch, Hannon and Telch (1984) compared the relative efficacy of group administered covert sensitization (CVS),
supportive group therapy (SGT) and a nonspecific control treatment, in 28 alcoholics. Nine subjects were assigned to SGT, eleven subjects to CVS and eight subjects to the control condition. Results indicate that SGT was significantly more effective than the other two groups in reducing daily drinking pattern. All three groups reported significant improvement on urge ratings.

Little and Curran (1978) in a review of literature on behavioral conditioning by covert sensitization indicated that this is not an effective treatment technique for alcoholism although some of the inconsistent results may be due to ineffectual implementation of the technique.

To summarize, covert sensitization has been used in alcoholism treatment programs either as an independent technique or as an adjunct or formed a component in multimodal treatment programs. Several studies assessed the efficacy of covert sensitization with varying procedures. Majority of these studies, support the view that covert sensitization can be used effectively in dealing with problem drinking.
SOCIAL SKILLS TRAINING

Marlatt and Gordon (1980), in an analysis of relapse episodes among 70 alcohol abusers, found that one of the reasons for relapse was social pressures to resume drinking. Skills training programs that develop alternative responses to various antecedents of drinking have been found to be effective in treatment outcome research.

Foy, Miller, Eisler and O'Toole (1976) developed a drink refusal training program. Two therapists along with client played three specific situations in which client was offered a drink. During each interaction, the therapists assumed the roles of 'friends' or 'relatives' pressurised the client to have a drink with them and persisted even after he had initially refused. After a baseline assessment, the client was taught to show five target behaviors i.e., 1) to request his companions to refrain from forcing him to drink, in the role play situation; 2) to suggest that they engage in an activity other than drinking; 3) to redirect the conversation to a topic unrelated to alcohol; 4) to look directly at his companions while he was speaking to them; and 5) to use his voice, facial expression and hand gestures in a convincing manner. This program effectively established assertive skills, which were maintained at a three-month follow-up.
Chaney, O'Leary and Marlatt (1978) evaluated the efficacy of a short-term skill training program in which clients were taught how to demonstrate appropriate behaviors in problematic situations. The clients from an in-patient treatment program were divided into 1) skill training group (Group-I) and 2) no additional treatment control group (group-II). In the group-I the clients were trained in a verbal role play situation, in addition to the regular in-patient treatment. In the group-II the clients were given only the in-patient treatment. A one-year follow-up indicated that skill training helped in decreasing the duration and severity of relapse episodes. The authors suggested that skill training has utility as a component of a multimodal approach, in preventing relapse.

The effectiveness of social skills training with alcoholics as an important therapeutic method, has been highlighted in various studies (Hirsch, Von Rosenberg, Phelan and Dudley, 1978; Oei and Jackson, 1980; Farrel and Galassi, 1981; Yeager, 1983; and Erikson, Bjornstad and Gostestam, 1986).

Findings in general revealed the following:
1) Social skills training either individually or as an adjunct to a broadspectrum treatment program can be an effective therapeutic component (Hirsch et al., 1978; Farrel and Galassi, 1981).
2) The treatment programs which consisted of social skills training as a component showed better outcome than those programs without it (Hirsch et al., 1978; Oei and Jackson, 1980; and Yeager, 1983).

3) Clients treated with social skills training have significantly more sober days and more working days compared to controls (Erikson et al., 1986).

4) The post-treatment assertiveness scores improved significantly in clients who had assertiveness training compared to those who did not have (Nelson and Howell, 1982-83).

In summary, literature on the skills training in alcoholism treatment programs, demonstrates application of a variety of techniques such as assertiveness training, social skills training and problem-solving skills training. These techniques have been applied in alcoholism treatment programs, independently, as adjuncts to other treatment techniques and as components of broadspectrum treatment programs. Some studies have assessed the superiority of treatment programs when the skills training is added to other traditional treatment programs. Findings of various studies unequivocally supported that skills training procedures either individually or in conjunction with other treatment
programs, appear to support the view that skills training procedures are useful in providing alcoholics with effective ways of coping in social and interpersonal situations, and in order to help reduce their dependence on alcohol and in dealing with relapse.

**ALCOHOL EDUCATION**

According to Lawson (1983), there are two purposes for including alcohol education, as a part of therapeutic program.

1. To prepare the client for treatment by clarifying his misconceptions; and
2. to enhance client's motivation for treatment by informing him of potential adverse effects of alcohol abuse and describing the positive aspects of the treatment.

Duryea et al. (1984) designed an alcohol education program to increase the knowledge about various effects of alcohol on performance, to increase ability to refute prodrinking and driving arguments, and to decrease likelihood of complying with pressure to participate in alcohol related situations. Films, slides, discussions and role playing activities were included in the program administered to 155 9th grade students. The results following 6 months of
training indicated that the subjects scored significantly more favorably on knowledge, refuting arguments, compliance, and riding with drunk drivers.

The effectiveness of a cognitive behavioral alcohol education program in altering knowledge about alcohol, attitudes towards alcohol, beliefs about alcohol and drinking behavior was assessed by Theurer (1988). It was proposed that an effective alcohol education program should include a cognitive (expectancies and attitudes towards alcohol), an educational (factual information about alcohol) and a behavioral (skill training to promote effective use of information) component. The program was presented to 8th grade boys and girls (N = 100) in two class rooms and was compared with a waiting list control group that received no alcohol education program. Groups were also compared at a 6-month follow-up. The results indicated a significant increase in knowledge about alcohol in the education group as compared to the control group.

Various broadspectrum treatment programs effectively used alcohol education as one of the components (Lazarus, 1965; Vogler, Compton and Weissback, 1975; Vogler, Weissback and Compton, 1977a; Vogler, Weissback, Compton and Martin, 1977b).
BEHAVIORAL COUNSELING

Alcoholics, like all others, live along with other individuals important to them. Their interaction and consequent social reinforcement contingencies in the environment often maintain alcohol abuse. (Miller and Barlow, 1973). Hence behavioral counseling has been regarded as important in altering an alcoholic's habit pattern.

Hersen, Rachman and Falkowski (1972) reported a descriptive analysis of nonverbal interactions between alcoholics and their wives which indicated that wives attended more to behaviors associated with alcoholism as compared to nonalcohol-related behaviors.

Several case studies report that management of specific behavioral contingencies by significant others can alter an alcoholic's drinking behavior in the natural environment. Differential social reinforcement from peers (Sulzer, 1965) and wives (Cheek, Franks, Laucius and Burtle, 1971) help in the successful management of alcoholism. Contingency contracting between the alcoholic and his wife served to establish and maintain a stable pattern of controlled drinking (Miller, 1972).

In an attempt to rearrange social reinforcement in an alcoholic's environment, Sulzer (1965) made peer
companionship and spouse attention contingent upon nonalcohol-drinking behavior. Sober behavior was socially reinforced by the wife and the therapist. Results showed that the subject discontinued use of alcohol and was functioning more efficiently.

Cheek, Franks, Laucius and Burtle (1971) trained wives of alcoholics to use behavior modification techniques to change family interactions. Wives received an instruction to program contingencies more objectively. Most wives who completed the program reported at least moderate improvement in marital communication.

Hedberg and Campbell (1974) compared four behavioral treatments in alcoholism. In this study, 49 out-patient alcoholics were randomly assigned to one of these treatments: 1) behavioral family counseling; 2) systematic desensitization; 3) covert sensitization; and 4) avoidance conditioning (electric shock used as conditioned stimulus). At 6 months follow-up, 74% of clients receiving behavioral family counseling, 67% of those given systematic desensitization, 40% of those given covert sensitization and none from the avoidance conditioning group showed improvement. From this study the author concluded that out-patient treatment programs employing behavioral counseling techniques can be successful at least for six months.
Berger (1981) investigated to find out an association between client's completion of treatment and the involvement of his family in the treatment. Family members were involved in the treatment by their participation in out-patient meeting sessions conducted four times a week during the 14 weeks of the alcoholism treatment program. The difference between the nature of involvement of relatives of 100 program completers and 306 drop-outs was significant.

McCready, Noel, Abrams, Stout, Nelson and Hay (1986) provided treatment to 53 alcoholics and their spouses in one of the following out-patient behavioral treatment conditions: 1) minimal spouse involvement (MSI); 2) alcohol-focussed spouse involvement (AFSI); or 3) Alcohol focussed spouse involvement plus behavioral marital therapy (ABMT). Clients were followed-up for 6 months. All clients markedly decreased their drinking and reported increased life satisfaction. ABMT clients were more compliant than AFSI clients without conjoint homework assignments, decreased their drinking more quickly during treatment; relapsed more slowly after treatment and maintained better marital satisfaction. ABMT clients were more likely to stay in the treatment and maintain better marital satisfaction, than the MSI clients after treatment.
Mishra and Kumaraiah (1989) used 'behavioral counseling to significant others' as a component in the multimodal treatment program. They found that of 263 alcoholics treated, 50% were abstinent at least for a period of 1-3 months.

To summarize, literature on the utility of behavioral counseling techniques in the treatment programs of alcoholism, it is observed that its use as an effective technique has been well established. It can be adopted as one of the components in multimodal programs for alcoholism, to manipulate the reinforcement contingencies in the family environment, to facilitate and maintain the abstinence behavior and to modify the attitudes and maladaptive behavior of the significant others, specifically in dealing with the alcoholic family members.

BROADSPECTRUM TREATMENT APPROACHES

Broadspectrum treatment programs in alcoholism assume that an individual has a cluster of behavioral problems which need to be addressed in order to make the treatment most effective. Hence outcome studies with multimodal treatment examine the efficacy of a combination of treatment procedures (Sobell, Sobell, Ersner-Hershfield and Nirenberg, 1982). In this type of approach, various relevant behavioral techniques
are integrated into a treatment package. Hamburg (1975) in a review suggested that broadspectrum behavior therapy can be substantially more effective than conventional hospital treatment programs.

Lazarus (1965) first suggested the broadspectrum approach in the treatment of alcoholism. He included various techniques in the treatment program, namely, 1) medical attention to alcohol-related physical problems; 2) aversive conditioning, to modify or eliminate abusive drinking; 3) behavioral assessment, to identify specific stimulus antecedents; 4) assertive training, to equip the client to respond more appropriately to interpersonal stressful situations; 5) behavioral rehearsal, to develop more effective interpersonal skills; 6) hypnosis, to countercondition anxiety-response basis; and 7) marital therapy, to help client's spouse modify his/her central role in the client's alcoholism.

Pomerleau, Pertschuk, Adkins and Brady (1978) compared a multimodal group behavioral treatment program with traditional group-psychotherapy in out-patient problem drinkers. The behavioral treatment included: 1) functional analysis of the subject's drinking; 2) contingency management, to shape reduced drinking; 3) behavior therapy for problems associated with drinking; 4) strengthening of
nondrinking activities; and 5) efforts to facilitate the maintenance of treatment gains. The traditional program focussed on 1) confrontation of denial regarding drinking; 2) social support for nondrinking; and 3) psychotherapy. The traditional program stressed a goal of abstinence while the behavioral program emphasized moderate drinking. Of 32 clients who participated, 18 were randomly assigned to behavioral treatment and 14 to the traditional program. Results indicated that fewer clients dropped-out of the behavioral program (2/18) than of the traditional program (6/14). One year follow-up showed that 72% of the behavioral treatment clients were either abstinent or drinking below their pretreatment levels, as compared to 50% of the traditional treatment clients. These results suggest an advantage of behavioral intervention over traditional treatment program.

Vogler and associates (1975, 1977a,b) described a set of "integrated behavior change techniques in the treatment of alcoholism". This treatment program included the following techniques:

1. Videotape self-confrontation of drunken behavior (to increase motivation for therapy);
2. Discrimination training for blood alcohol concentration (to enable clients to judge their level of intoxication
and in order to maintain their drinking at more moderate levels;

3. Aversion training (to establish conditioned aversion to alcohol);

4. Discriminated avoidance practice, with painful electric shock given for overconsumption (to shape initial conditioned aversion to alcohol so that it becomes specific to over-consumption);

5. Training to adopt 'alternatives' and behavioral counseling (to help clients develop alternative incompatible responses as against the setting events that previously precipitated over-drinking); and

6. Alcohol education.

Analysis of outcome measure, revealed that clients who received the full-treatment package (45 days) consumed significantly less alcohol than those in the partial treatment group at the end of one-year follow-up period.

In another study (Vogler et al., 1977b) four groups of problem drinkers participated. In this study, clients were randomly divided into four groups: Group I (n=23) clients received the full treatment of integrated behavior change techniques; Group II (n=19) clients were given blood alcohol level discrimination training, behavioral counseling, alternatives training and alcohol education. Group-III
(n=21) clients received only alcohol education and Group-IV (n=17) clients received behavioral counseling, alternatives training and alcohol education. The treatment goal for all clients was a moderation of drinking pattern; 50 of 80 clients who completed treatment and follow-up had achieved this goal at 1-year follow-up. Another 3 clients had maintained abstinence over the same period. These groups did not differ significantly with regard to outcome. They explained these findings in terms of variability among subjects in the pretreatment drinking rates and social characteristics. The authors also explained that the strong learning orientation to treatment that subjects in all the four groups were given might have influenced the outcome.

Sobell and Sobell (1973a, 1973b, 1976, 1978) evaluated the effectiveness of a multimodal treatment program called as "Individualized behavior therapy" (IBT) with inpatient alcoholics. 40 clients were assigned to a non problem drinking goal and 30 were assigned to an abstinence goal. These clients were randomly assigned to either the IBT program in conjunction with the standard hospital treatment program or to the hospital treatment program alone (control group). The major components of the IBT program included:

1. Videotaped self-confrontation of drunken behavior;
2. Problem-solving training;
3. Assertiveness training including training to resist social pressures to drink;

4. Aversive contingencies for inappropriate drinking behaviors; and

5. Access to alcohol during treatment sessions.

Follow-up was conducted at monthly intervals over two years. It was found that IBT-treated clients with a goal of non-problem drinking fared significantly better than their respective control clients throughout the two years period. The differences between the abstinence-goal groups were significant at one-year follow-up intervals (the IBT clients had superior outcome) but failed to retain significance over the second year follow-up.

Mishra and Kumariah (1989) retrospectively analyzed the data of a multifaceted treatment program consisting of techniques such as relaxation training, electrical aversion therapy, covert sensitization, assertive training and behavioral counseling. These techniques were administered, in a multimodal program, to 263 alcoholic clients based on the behavioral analysis. They reported abstinence in 133 cases (50%) for a period of 1-3 months. They suggested that a broadspectrum approach with bio-psycho-social aspects would be more useful and also behavioral intervention is a major promise in the management of alcohol dependence.
John and Kuruvilla (1990) used a multimodal treatment program consisting of detoxification, individual and group psychotherapy, behavior modification techniques, electrical aversion and disulfiram. 43 clients completed the course of treatment. Follow-up by post revealed a response rate of 35%. Over 50% of these clients who responded were found to have abstained from alcohol for more than two years. They concluded that multimodal treatment program is 'best suited' for the treatment of alcohol dependence.

Above all, the outcome studies which have evaluated the efficacy of multimodal treatment programs, have been unequivocally of the opinion that the multimodal treatment programs are always superior to the unimodal therapeutic approaches in dealing with the alcoholic clients.

**LOCUS OF CONTROL AND ALCOHOLISM**

Over the last decade, there has been a significant increase in the consideration of locus of control (LOC) as a variable pertaining to the alcoholism treatment research (Foon, 1987).

The review on the LOC research in alcoholism deals with the following aspects:

1. Locus of control among alcoholics;
2. Change in locus of control after treatment;
3. Locus of control and attrition from treatment; and
4. Locus of control and treatment outcome.

1) Locus of control among alcoholics:

Gozali and Sloan (1971) administered Rotter's I-E scale to 55 male alcoholics and to a matched control of 98 men. The findings suggest that alcoholics were consistently more internally oriented than nonalcoholics. Costello and Manders (1974) also reported that alcoholics were more internal in the LOC than nonalcoholics. Gozali and Sloan (1971) suggested that the internal orientation of alcoholics enables them to cling to the belief that they can control their drinking in spite of increasing evidence to the contrary and hence may contribute to their proclivity to become alcoholics.

However, Butts and Chotbos (1973) in their study, found that alcoholics had significantly more external control. Reardon (1979) also found that alcoholics had an internal LOC. Russill and Ludenia (1983) compared a group of male alcoholics from an in-patient treatment program with normals. They found that alcoholics scored significantly higher on the internality than normals.

Krampen (1980) compared 50 alcoholics with 56 nonalcoholics on the generalized expectations such as
internality, powerful other's external control orientation, chance control orientation and found significant differences. Alcoholics were found to be more external in powerful others control orientations, more external in chance control orientations, than nonalcoholics. The results support the findings of alcoholics' relative externality in LOC and have implications for the relevance of generalized expectations in the treatment of alcoholism.

Robertson (1981) investigated the differences between alcoholics and nonalcoholics on the LOC. 120 male volunteers with no previous treatment for alcoholism were divided into four groups of 30 each: black alcoholics, white alcoholics, black nonalcoholics, and white nonalcoholics. Blacks were found to be more external than whites; alcoholics were found to be more external than the nonalcoholics.

To summarize, various studies have attempted to assess the LOC among alcoholics using different measures. Some studies have shown an internal LOC among alcoholics, whereas others demonstrated externality.

2) Changes in Locus of control after treatment:

Rohsenow and O'Leary (1978) reviewed the literature dealing with relationships of LOC and alcoholism treatment. They found that research on the control orientation indicated alcoholics become more internal following treatment.
Walker, Mast, Chaney and O'Leary (1979) employed the Drinking Related Locus of Control (DRIE) scale in alcoholics to find out changes in drinking-related LOC as a function of length of treatment received. Results suggest that overall scores shifted from externality to internality over the duration of treatment.

Radford (1980) investigated the relationship between measures of control orientation and post-treatment adjustment in alcoholics and attempted to predict differences among these alcoholics' post-treatment response based on the pre-treatment measures of LOC. Subjects were 80 alcoholics who had been treated and contacted at either 6- or 12- months follow-up. Results indicated that the control orientation was a useful indicator of adjustment at follow-up.

Hurlburt (1981) studied LOC in 427 alcoholics during three stages of recovery. Younger subjects were found to have had higher external LOC scores than did older subjects. Subjects who tended to have more treatment experiences tended to have higher external scores. Compared to subjects who had just quit drinking, subjects sober for at least six months had higher externality scores. Subjects who had just finished alcoholism treatment showed highest internality. In a pre- and post-treatment comparison of 67 subjects no significant differences were seen.
Rohsenow, Smith and Johnson (1985) investigated the effectiveness of cognitive-affective stress management training (SMT) as a drinking reduction program for heavy social drinking college students. The subjects were 40 male undergraduates. The SMT program included muscle relaxation, meditation training, cognitive restructuring, and coping skills rehearsal during induced affect. Following treatment, a shift toward a more internal LOC was seen.

Perry (1987) investigated the general and drinking-related control orientations of male alcoholics using the Levenson Multidimensional LOC scale and the DRIE scale. Alcoholics were found to shift in control orientation over the course of an in-patient treatment program away from initial high internal or high external scores suggesting a striving for balance.

3) Locus of control and attrition from treatment :

O'Leary, Calsyn, Chaney and Freeman (1977) assessed the LOC to find out its utility in predicting drop-outs from an after-care alcoholism program. They administered the Rotter's I-E scale to 84 men at the beginning of an alcoholism treatment program, and to 35 men who completed the subsequent 1-year out-patient program and compared with 49 drop-outs after the in-patient phase. The two groups differed significantly on their LOC.
O'Leary, Rohsenow and Chaney (1979) studied the use of multivariate personality strategies in predicting attrition from an alcoholism treatment program. The Rotter's I-E scale was administered to a sample of male alcoholics. Internal LOC was found to be related to attrition.

Walker, Van Ryn, Frederick, Reynolds and O'Leary (1980) studied the relationship between DRIE scores and attrition from an alcoholism treatment program in 75 male alcoholics. Clients who left the treatment during in-patient phase scored higher (more external) on the general control factor than those who remained in the treatment.

Jones (1985) examined the relationship between DRIE scale and withdrawal from treatment against medical advice in 34 male alcoholics. Their LOC scores significantly correlated with the number of days they remained in treatment. Internal LOC scorers remained longer than external scorers during treatment. It is suggested that the DRIE scale can be used to identify high risk alcoholics and to develop prevention programs that will help these at-risk subjects better cope with the internal and external drinking pressures they experience.

Phillips (1987) evaluated drop-out among women from an in-patient alcohol treatment program. Data were obtained
from 97 women with primary alcoholism. DRIE was found to be a significant predictor of drop-out. Higher internal scores on the DRIE at pre-test and higher external scores at post-test were found to be related to early drop-out.

Hughes and Seiler (1981) administered the Rotter's I-E scale to 34 alcoholics within 48 hours after admission into an alcoholism treatment halfway house. They found that the LOC orientation was not significantly different from program completers as compared to drop-outs.

Corey (1984) compared the stable and recidivism-prone alcoholic in-patients on the LOC. No significant differences were noted on the internal-external scale.

4) Locus of control and treatment outcome:

Caster and Parsons (1977) administered the Levinson LOC scale to study the relationship between LOC and the treatment outcome in two samples of male alcoholics: 40 in-patients treated with insight-oriented therapy and 38 out-patients treated with behaviorally oriented therapy and disulfiram. These clients' scores on 'control by chance' and 'control by powerful others' positively correlated with failure. In the out-patient group, the 'control by chance' was positively correlated with treatment failure.

Pryer and Distefano (1977) studied LOC in 162 alcoholics.
using the Rutter's I-E scale. Internal scorers were found to be significantly more success-oriented than the external scorers. Internality was found to be positively related to successful rehabilitation of alcoholics.

Coudret and Huffman (1982) examined the relationship between LOC and successful treatment. Of 82 alcoholics, 72 subjects who completed treatment were found to have had a shift to more external orientation on the LOC.

Hussey (1981) administered the Rotter's I-E scale and the DRIE scale to 75 out-patient alcoholics to determine whether a drinking specific LOC would provide greater predictive power in drinking-related areas than the generalized Rotter's scale. The intrapersonal control scale demonstrated greatest predictive utility among the scales.

Caputo and McGovern (1983) administered the Rotter's I-E scale to assess the LOC and to find out the relationship with outcome in 100 male alcoholics. The outcome criteria were length of stay and commitment to ongoing rehabilitation. The I-E scale was found to be most significant predictor, with 'internals' tending toward successful treatment outcome.

Kivlahan, Donovan and Walkar (1983) assessed the pretreatment scores from the DRIE scale and reasons for drinking as predictors for drinking relapse over a nine-
month follow-up in a sample of 232 male alcoholics. They found the external DRIE scores were significantly related to the attributions of the drinking to negative emotional states, relapses and to attribution in the follow-up. Among clients who identified negative physical states, such as craving, as their primary reason for drinking, relapse or attrition was associated with significantly more internal DRIE scores. The results support assessment of these 'cognitive social learning constructs' for differential treatment planning with clients at increased risk for relapse.

Query (1983) studied the relationship between LOC and the treatment outcome among 47 male alcoholics in a behavioral treatment program. Internal LOC subjects were found to be abstinent at follow-up.

Abbott (1984) evaluated the ability of generalized and DRIE scores in predicting therapy involvement during treatment and outcome following a treatment program. These measures were administered to 106 alcoholics pre-and post-treatment. This study indicated a significant shift in the internal direction on these measures from the pre-and post-treatment assessment. DRIE was found to predict the treatment outcome better than the generalized measure.
Pyle (1984) examined the LOC as a predictor of outcome in the treatment of alcoholism. LOC orientation was found to have shifted in the external direction by completion of treatment, and was related to continued success at follow-up. Success at follow-up was significantly correlated with drinking-related externality and was effectively predicted by the LOC measures.

Huckstadt (1987) hypothesized that an alcoholic's relapse is related to various interpersonal and intrapersonal factors. She compared the DRIE scores among alcoholics, recovering alcoholics and nonalcoholics. Each group consisted of 22 males similar in age and other socioeconomic factors. Results indicated significant differences among the three groups. The nonalcoholic group scored more internally than the alcoholic or recovering alcoholic groups. The recovering alcoholic group scored more internally than the alcoholic group. The author suggested that assessment of the DRIE scores may be useful in planning and monitoring the treatment of alcoholism.

PERSONALITY AND ALCOHOLISM

Research on the personality characteristics of alcoholics indicate that alcoholics have high interpersonal anxiety (Lottman, Davis and Gustafson, 1973), low self-esteem (Rohan, 1972) and a general lack of assertiveness
Alcoholics are found to be nonconforming, impulsive and have strong needs of immediate gratification. According to Cox and Klinger (1987) this constellation is an enduring feature of alcoholic's personality structure.

Nocks and Bradley (1969) assessed self-esteem in 61 alcoholics by a structured interview. There was a trend toward lower self-esteem with increased duration of drinking problem and duration of awareness of the problem.

Lawlis and Rubin (1971) studied the personality of alcoholics using the 16 PF questionnaire. Form-A was administered to two samples of 100 and 80 alcoholics and Form-C to 84 alcoholics. The intercorrelations of the personality profiles were factor analyzed. In the first two samples, the three factors correlated significantly with each other and were interpreted as identifying three groups of alcoholics namely, those A) with an inhibited neurotic syndrome; B) with sociopathic symptoms and C) with an aggressive neurotic syndrome. In the third sample two of the three groups correlated significantly with groups A and C, but the third group, a type of schizoid personality was evident, which was unlike group B. These results suggest that there are at least three personality types among alcoholics.
Fawcett (1986) studied alcoholics to investigate whether
1) MMPI profiles of male alcoholics show homogeneous
clustering into separate and distinct personality types; 2) differences exist between MMPI cluster types and the mean
number of weeks they remain in voluntary treatment; and 3) a
significant difference exists between MMPI cluster types and
the manner in which they drop-out from a voluntary treatment.
The MMPI protocols of 380 male alcoholics were drawn. Four
distinct personality cluster types, supported by dynamic
descriptions based upon actuarial studies, were identified by
means of multivariate cluster analysis. The four cluster
types were described as: 1) emotionally unstable
personality, 2) psychoneurosis with depression; 3) personality trait disturbance with reactive depression; and
4) passive-aggressive personality with aggressive type.

Tarter (1975) administered the California Personality
Inventory to 48 men alcoholics in an and to 24 nonalcoholics.
Alcoholics scored significantly lower than the controls on
the socialization and self-control scales. Alcoholics were
divided into two groups, early and late onset drinkers, the
cut-off age being 30. Both early and late onset drinkers
scored lower than the controls on the socialization, but did
not differ from each other. The early onset drinkers scored
higher than the controls on the flexibility scale.
Keehn (1970) observed that alcoholics scored significantly higher on the extraversion dimension. Rangaswamy (1983) compared the personality of 30 alcoholics with 30 matched normal controls. Subjects were administered the EPI. Results show that alcoholics were more extroverted and neurotic.

Chakravarthy, Kumaraiah and Mishra (1990) assessed the personality of 17 alcoholics in a behavioral treatment program, using the EPI. Alcoholics were found to be introverts and high on neuroticism. Pande (1987) administered the EPQ to 50 alcoholic and 50 nonalcoholic males matched for age, education and socio-economic status. Alcoholics had significantly higher scores on the neuroticism and psychoticism scales.

Brown (1980) measured anxiety, depression and self-esteem in 22 'gamma' alcoholics, 16 'delta' alcoholics and 20 social drinkers. Alcoholics were found to be significantly different from social drinkers on the self-esteem.

Majors (1984) assessed the personality profile in 36 male alcoholics using the Personality Research Form (PRF) and Jackson Personality Inventory (JPI) and compared it with 42 normal volunteers. The experimental group scored significantly higher than the controls on achievement,
aggression, autonomy, understanding, anxiety, breadth of interest, complexity and Pd-AA and lower on responsibility and desirability. The experimental group retest subjects scored higher than the controls on anxiety, complexity, interpersonal affect as well as Pd-AA and lower on conformity and responsibility.

Jensen (1989) designed to explore a multidimensional concept of alcoholism for an in-patient alcoholism treatment, using the MMPI and Millon Clinical Multiaxial Inventory (MCMI). Results indicated that distinct and different personality patterns existed within this population. The five personality patterns found were: 1. personality trait disturbance; 2. borderline personality disorder; 3. normal personality; 4. situational disturbance; and 5. antisocial personality. Since members of the five groups differed widely in personality it was proposed that treatment for each group should differ.

Syslo (1988) found that early onset of alcoholics, regardless of gender, had more psychological impairment than late onset alcoholics.

Mc Mohan, Gerash and Davidson (1989) studied the differences between continuous and episodic drinkers on the Millon Clinical Multiaxial Inventory (MCMI). The continuous drinkers were found to be positively correlated with
psychotic thinking, passive-aggressive, avoidant, and psychotic depression scales on MCMI. The episodic drinking was positively correlated with the conforming-compulsive scales of the MCMI.

Suman, Nagalakshmi and Rao (1989) investigated the usefulness of the California Test of Personality which measures both intrapsychic as well as interpersonal adjustment. The study was conducted on 2 clinical groups: Neurotics and alcoholics; results indicated that alcoholics lack a feeling of belonging and tend to be withdrawn. Alcoholics have a poorer sense of personal freedom and higher antisocial tendencies, when compared to normal controls.

PERSONALITY AND OUTCOME

Ritson (1971) assessed the relationship between personality and treatment response in alcoholics. The Hostility Scale Questionnaire was administered at the start of treatment and again 6 months after completion of treatment. Results indicated that alcoholics with lower general hostility score were more likely to be abstinent after six months.

Oatsvall (1979) tested 35 subjects referred to an alcoholism treatment program during a two-month period to determine what aspects of alcoholics' personality were
predictors of successful treatment outcome. The results indicated a significant difference between the successful and failure groups on 'well-being' and 'self-control'.

The differences between relapsed and nonrelapsed alcohol abusers on coping skills were assessed by Rosenberg (1979). Nonresponders were significantly more noncompliant and more explicit in their intentions not to drink in problem situations than were relapsers. The results support a coping skills model of relapse and indicate that alcoholism treatment programs should consider assertive training.

Tozzi (1986) investigated how level of self-esteem, and level of self-motivation and the potential interaction of these two influence the degree to which alcoholics improve during treatment. Alcoholics were administered the MMPI and the Rosenberg Self-esteem scale upon admission. After completion of the program, subjects were administered MMPI again. Results indicated that levels of self-esteem and self-motivation were not found to predict change.

Tarnai and Young (1983) investigated whether alcoholics are primarily extraverts, introverts or ambiverts. Four groups of subjects from two alcoholism treatment centres were given the Intraversion-Extraversion scale. Results suggested that extraversion is related to better treatment outcome, with introverts having a poor prognosis.
Oei and Jones (1986) reviewed the theoretical and empirical literature on the role of alcohol-related expectancies in problem drinking. They concluded that cognitive expectancies should be given appropriate importance in the management of alcoholism.

Hauge and Irgens-Jansen (1987) studied the experiencing of positive consequences of drinking in relation to alcohol consumption, intoxication frequency, and the experiencing of negative consequences of drinking in four Scandinavian countries. A substantial number of individuals reported experiencing of various positive effects of drinking. These perceived positive consequences correlated with yearly consumption and with intoxication frequency. There were differences between men and women and between age groups in the way they experienced various types of positive consequences.

The review on various aspects of alcohol related expectancies are presented in the following sections:

1) Sociodemographic factors associated with expectancies;

2) Alcohol related expectancies in nonalcoholics; and

3) Alcohol related expectancies in alcoholics.
1) Sociodemographic factors associated with expectancies:

Burkhart and Ratliff (1984) studied the effects of drinking in college students. They found that women tend to drink to enhance social pleasure, whereas men expect a greater degree of aggressive, arousal and social deviance when drinking.

Christiansen, Goldman and Brown (1985) investigated changes in adolescents' alcohol expectancies as a function of increasing age and drinking experience. They found that as adolescents grow older, they increasingly believe that alcohol improves social behavior, increases arousal and decreases tension. Expectancies for global changes, enhanced sexuality and improved cognitive and motor functioning seemed to level off and weaken in the older subjects.

Leigh, Stacey and Aramburn (1989) studied the positive and negative outcomes of drinking among various groups. Fraternity members were more likely to mention positive social effects. More students and fraternity members than drunk drivers listed many more negative consequences related to legal, employment and family problems. They suggested that the expected effects of alcohol vary for different groups of drinkers and that assessing the expectancies may be useful in the prediction of drinking behavior and in understanding the drinking motivations.
2) Alcohol related expectancies in nonalcoholics:

Brown, Goldman, Inn and Anderson (1980) developed and administered a questionnaire to 440 nonalcoholics to investigate the alcohol expectancies. Factor analysis revealed the following six independent belief factors: that alcohol 1) 'transforms experiences in a positive way'; 2) 'enhances social and physical pleasures'; 3) 'enhances sexual performance and experience'; 4) 'increases power and aggression'; 5) 'increases social assertiveness'; and 6) 'reduces tension'. Further, it was found that increased expectation of sexual and aggressive behavior was characteristic of heavy drinkers.

Rohsenow (1983) in a study with 150 college students found that subjects consistently expect alcohol to affect other people more than themselves for both positive effects such as social or sexual pleasures and negative effects such as functional impairment.

Brown (1985a) examined the alcohol expectancies in 321 undergraduates. Results indicated that alcohol expectancies increase the predictability of the drinking patterns and that alcohol expectancies were differentially related to problematic and nonproblematic features of college drinking.
Mooney, Fromme, Kivlahan and Marlatt (1987) studied expectancies in 157 male and 168 female students. Results indicated that males who reported most frequent drinking tended to have stronger expectations of increased social and physical pleasure, global positive changes and sexual enhancement. Frequent consumption among females was best predicted by stronger expectations that alcohol would reduce tension. The amount consumed per drinking occasion was predicted by two expectancy factors for males and females. These are social and physical pleasure and social assertion.

Cutter and O'Farrell (1984) investigated the relationship between subjects' reasons for drinking and their customary drinking behavior. Results indicated that solitary drinking was associated with drinking to forget personal shortcomings, to forget problems and disappointments, and to be less concerned with what others thought of them.

3) Alcohol related expectancies among alcoholics:

Hull and Bond (1986) conducted a meta-analysis of 34 studies that investigated the effects of alcohol consumption and expectancy. Preliminary results indicated that both alcohol and expectancy had significant but heterogenous effects on behavior. Subsequent analysis revealed that alcohol expectancy had strong effects on relatively deviant
social behaviors and minimal effects on nonsocial behaviors. The principal effects associated with alcohol expectancy involved increased alcohol consumption and increased sexual arousal.

Zarantonello (1984) studied the relationship between alcoholism chronicity and expectancies in 30 male alcoholic in-patients and 30 nonalcoholic medical in-patients. Alcoholics scored significantly higher on all the expectancy factors than did nonalcoholics. Greater severity of life problems associated with alcohol use was significantly related to AEQ scores.

Brown, Goldman and Christiansen (1985) compared the expectancies of 171 alcoholics with 65 medical in-patients and 344 college students. Results indicated that nonalcoholics and alcoholics differed significantly on alcohol related expectancies. Alcoholics were found to maintain strong alcohol expectancies; expectancies increased across and within populations as a function of drinking pattern.

Connors, O'Farrell, Cutter, Thompson et al. (1986) studied alcohol expectancies among 260 male alcoholics, 79 male problem drinkers and 81 male nonproblem drinkers. Alcoholics uniformly scored higher than did problem and
nonproblem drinkers in their endorsements of alcohol's positive effects in various domains. Problem drinkers scored higher than the nonproblem drinkers. Results indicate that important individual differences exist in drinkers' expectations regarding the utility of alcohol. It was also found that alcohol expectancies vary as a function of severity of problem drinking.

Connors, O'Farrell and Pelcovits (1988) assessed 22 alcoholics' expectancies in relation to 31 discrete relapse situations. Results showed that almost half of expectancies reported dealt with drinking to gain control of a situation; the rest were divided between drinking to cope with a non-social situation or to create an altered physical state. The majority of drinking outcome expectancies were characterized by the subjects as being achieved.

Ojha (1986) in a study attempted to examine the motivational changes following aversion therapy in 21 alcoholics. Results showed that following therapy, there was significant shift in the pre-and post-assessment in motivational scores indicating reduction in motivation towards alcohol intake.
FACTORS ASSOCIATED WITH TREATMENT OUTCOME

This section deals with the following aspects that have been known to be associated with outcome in the alcoholism treatment. These include:

1. Sociodemographic factors associated with outcome;
2. Psychological factors associated with outcome;
3. Drinking related factors associated with outcome;
4. Treatment related factors associated with outcome; and
5. Motivational factors related to outcome.

1. Sociodemographic factors associated with outcome:

Various sociodemographic factors have been known to be associated with outcome in alcoholism treatment.

Lunde and Vogler (1970) reviewed studies in which certain client characteristics were predictive of successful outcome. These characteristics include job stability, cooperation with treatment, living with a friend or relative, absence of criminal record and rural residence.

Rossi (1970) found that the best prognostic factors were employment and an intact marriage. Gillies, Laverty, Smart and Aharan (1974) found that alcoholics who were abstained at
1-year follow-up were found to be older in age. Social stability was also a significant predictor of good outcome. Glover and McCue (1977) found that good prognosis was positively related to age (over 40) and higher socioeconomic status and negatively related to single marital status. Ornstein and Charepon (1985) also found that those responding to treatment tended to be older, married and employed at admission.

Freedberg and Johnson (1981) compared 151 abstinent alcoholics with 109 clients drinking heavily 1 year after treatment completion. The relapsed alcoholics had significantly poorer scores on the problem assessment battery than the abstainers. All abstainers (except one) were found to be employed with their previous employers at follow-up. But in the relapsed group only 72% of clients were employed with their original employers.

According to Hawkins and Catalano (1985) factors related to relapse following treatment include absence of a strong pro-social network, family factors, peer factors, isolation, lack of involvement in productive roles, lack of involvement in recreational activities, and negative physical states (e.g., pain).

Frances, Bucky and Alexopoulos (1984) examined the data from 2,215 male alcoholic in-patients. They found that
subjects with a higher number of alcoholic first degree relatives correlated significantly with poorer outcome. Haver (1987) studied the relationships between family history of alcoholism and outcome 3-10 years after treatment. The results indicated that alcoholism in mother correlated significantly with poorer outcome.

Various other studies have shown that older subjects (Baekeland, Lundwall, Kissin and Shanahan, 1971; Edwards, Iorio, Berry and Gunderson, 1973; Glatt, 1961; Grimmett et al., 1967; Kissin, Charnoff and Rosenblatt, 1968; and Kissin, Platz and Su, 1970) with higher socioeconomic status (Gibbins and Armstrong, 1957; and Zimberg, 1974), and higher level of education (Gillis and Keet, 1969) have good prognosis. Other factors such as marital status (married clients) (Auger et al., 1973; Choi, 1973; Davies, Shepherd and Myers, 1956; Gerard and Saenger, 1966; Gibbins and Armstrong, 1957; Vallance, 1965; Wilson, Leaf and Nathan, 1975; and Zimberg, 1974), living with family members (Auger et al., 1973; Gerard and Saenger, 1966; McCance and McCance, 1969; Pokorny, Miller and Cleveland, 1968; and Vallance, 1965) and higher status occupation (Gillis and Keet, 1969) also indicate good prognosis.

2. Psychological factors associated with outcome:

According to Hawkins and Catalano (1985) factors that
appear to be related to relapse following treatment include negative emotional states.

Roberts (1986) correlated alcoholics and their associated psychopathology with outcome variables; he suggested that alcoholics with no psychiatric history may respond more positively to treatment for alcoholism than alcoholics who exhibit significant psychopathology such as major depression or antisocial personality disorder.

Bushier, Cooney, Kadden and Litt (1989) examined the relationship between life events and relapse in alcoholics. Subjects with low positive life event scores were more likely to experience relapse. Among those who remained abstinent, certain positive life events occurred much more frequently.

Ritson (1971) studied the relationship between personality of wives of alcoholics and treatment outcome. High scores on general punitiveness (on Hostility scale questionnaire) in the wives was associated with poor prognosis in alcoholic husbands. The wives personality is seen as important as those of alcoholics in maintaining sobriety.

Various other factors associated with positive outcome in alcoholism treatment programs are, good premorbid personality (Davies, Shepherd and Myers, 1956; Vallance,
1965), good social skills (Erikson et al., 1986), high social adjustment (Hunt and Azrin, 1973), and better visuo-motor coordination (Prazic, Buranji and Smiljanic, 1967).

Performance on various psychological tests indicate that low Pd subscores on MMPI (Kurland, 1968; Pokorny, Miller and Cleveland, 1968; Rae, 1972; Trice, Roman and Belasco, 1969), low neuroticism (Edwards, 1966) and high extraversion (Edwards, 1966) on Eysenck Personality Inventory, high H score (Trice, Roman and Belasco, 1969), and low A score (Kurland, 1968) and low N score (Kurland 1968; Trice et al., 1969) on 16-P.F. questionnaire are associated with good prognosis.

3. Drinking related factors associated with outcome:

Lunde and Vogler (1970) reviewed studies in which certain drinking related characteristics were predictive of successful outcome. These include no history of delirium tremens, binge as opposed to steady drinking, and whisky or beer as opposed to wine drinking.

Ornstein and Cherepon (1985) found that those respond to treatment positively tended to have had more days of prehospitalization abstinence.

Elal-Lawrence, Slade and Dewey (1986) compared 50 successful controlled drinkers, 45 abstainers and 44
relapers to isolate predictors of outcome. Results show that best predictors of abstinence were medium period of previous abstinence, having been a periodic drinker, and drinking exclusively alone or exclusively socially.

Other factors that are positively associated with outcome include sobriety prior to entering treatment (Baekeland, Lundwall, Kissin and Shanahan, 1971; Bateman and Peterson, 1971; Goldfried, 1969 and Ritson, 1968), long history of heavy drinking (Baekeland et al., 1971; Grimmett et al., 1967), seeking help for the first time (Davies, Shepherd and Myers, 1956), non-denial of alcohol problem (Gillis and keet, 1969), place of drinking being not at bar/park (Kissin, Chernoff and Rosenblatt, 1968) and periodic drinking (Kissin, Platz and Su, 1970).

4. Treatment factors associated with outcome:

Frohman (1988) found that number of aftercare meetings attended and whether or not aftercare was completed were significantly related to outcome. Ornstein and Cherepon (1985) found that those responding to treatment were less likely to have had prior hospitalization and were more likely to participate in after care.

According to Moos and Bliss (1978) the treatment outcome of clients who were more difficult to locate was considerably
worse than more accessible clients. Clients who were uncooperative also had poorer treatment outcome.

5. Motivational factors related to treatment outcome:

According to Rossi (1970) one of the best prognostic factors in the alcoholism treatment was affiliation with Alcoholics Anonymous.

Elal-Lawrence et al. (1986) compared 50 successful controlled drinkers, 45 abstainers and 44 relapsers to isolate predictors of outcome. Results showed that one of the best predictors of abstinence was previous contact with Alcoholics Anonymous.

Other studies also indicate that affiliation with Alcoholics Anonymous (Baekeland et al., 1971; Bateman and Petersen, 1971; Davies et al., 1956; and Ritson, 1968) and attendance to alcohol-free social clubs (Mallans et al., 1982); and Self-referral to the alcoholism treatment program (Kissin, Rosenblatt and Manchover, 1968) were found to be predictors of good prognosis.
High drop-out rate is one of the significant problems identified in the literature on treatment of alcoholism. The following sections on drop-out in alcoholism deal with:

1. Sociodemographic factors associated with drop-out;
2. Personality factors associated with drop-out;
3. Treatment related factors associated with drop-out; and

1. Sociodemographic factors:

Pisani and Motanky (1970) compared the treatment completers and drop-outs in a group therapy program. Drop-outs were in a lower socioeconomic class, had a greater number of siblings and were married at a later age.

Pokorny et al., (1968) and Wilkinson et al., (1971) indicate that drop-outs tend to have greater marital and vocational instability compared to treatment completers.

Baekeland, Lundwall and Shanahan (1973) studied correlates of attrition in the out-patient alcoholism treatment. They found that immediate drop-outs (those who failed to return after the first visit) were found to be living alone, and suffered the least impairment of their capacity due to alcoholism. Slow drop-outs (those who dropped-out during the second and fifth month of treatment) had lower levels of education.
Sullivan, Targum and Advani (1981) attempted to distinguish potential drop-outs from those who complete treatment program. Results indicate that only 45% of the drop-outs had full-time employment at admission, compared to 76% of those who completed.

Roffe (1982) differentiated the alcoholics who completed an 8-week in-patient treatment program and those who left prematurely. Variables such as age, marital status and employment status were found to have sufficient predictability of drop-out. Individuals with poor education, currently unemployed, living alone, under age 40, were found to have left the treatment prematurely.

Welte, Hynes, Sokolow and Lyons (1981) attempted to distinguish the clients who completed the alcoholism treatment program from clients who left prematurely. They found that social stability, financial status before treatment, years since last employed and socioeconomic status as the best discriminators between completers and drop-outs.

According to Marcus (1985) client's social support was a strongest contributor to stay longer in the treatment program. It was found that clients who live along with family and who perceive a high degree of social support are those most likely to remain in treatment longer.
Beckman and Bardsley (1986) studied the individual characteristics and gender differences among drop-outs from an alcoholism treatment. Both male and female alcoholics who had dropped-out were found to be having lower income than were persons who completed or were still in treatment. More variables were found to have related to treatment drop-out for men than for women.

Obinali (1986) tried to identify factors to differentiate alcoholics who successfully completed a residential treatment program from those who did not. Clients were categorized into 1. 'successful' or 2. 'unsuccessful'. Successful completion was positively related to employment history, level of adaptive functioning, marital status, and education.

2) Personality factors associated with drop-out:

Hoffman and Jansen (1973) reported that drop-outs have significantly higher scores on the L, K and Ma scales on the MMPI.

Baekeland et al. (1973) studied the correlates of client attrition from an out-patient alcoholism treatment. They found that immediate drop-outs (those who failed to return after the first visit) were anxious and depressed. The rapid drop-outs (those who dropped-out after 1-4 weeks of
treatment) had high level of anxiety, depression and somatic symptoms.

O'Leary, Calsyn, Chaney and Freeman (1977) administered psychological tests to predict drop-outs from an alcoholism treatment program. 84 male alcoholics were administered Rotter's I-E scale and the MMPI-168 at the beginning of the treatment. These clients who completed an 8-week in-patient program and a one-year program were compared to those clients who completed the in-patient phase, but dropped-out during the out-patient phase on the five MMPI-168 factors and the total I-E score. The two groups differed significantly on the I-E. The data were subjected to a discriminant analysis to generate a prediction equation. The prediction equation correctly classified 82% of the drop-outs.

O'Leary, Fauriam, Calsyn and Fehrenback (1981) studied the relationships among cognitive style, personality characteristics and attrition from treatment among alcoholics. The Group Embedded Figures Test (GEFT), Clinical Analysis Questionnaire (CAQ) and MMPI were administered to 78 in-patient male alcoholics. Multiple linear regression analysis indicated that the GEFT and CAQ shared 24% common variance; second-order CAQ factors of depression, independence, and Extraversion contributed significantly. GEFT and MMPI shared 16% common variance.
Cognitive style did not differ among the treatment attrition groups.

Pekarik, Jones and Blodgett (1986) investigated the relationships of scores on the psychopathic deviate, denial, dependency and MacAndrew Scales of the MMPI; Intelligence, age, income and education to continuance in a residential alcohol treatment program. Drop-outs scored higher on the psychopathic deviate scale than completers did.

Noel, McCrady, Stout and Fisher-Nelson (1987) categorized 105 applicants in an out-patient alcoholism treatment program as 1. treatment refusers; 2. treatment drop-outs and 3. treated subjects. Compared to subjects who consented to treatment, drop-outs were found to be having depressive symptoms not associated with alcohol use.

3. Treatment factors associated with drop-out:

A large percentage of alcoholics drop-out from residential treatment programs. Studies have found that 14% to 30% of clients drop-out of hospital based programs, while other residential programs have even higher rate of drop-outs (Baekeland and Lundwall, 1975).

Pisani and Motanky (1970) compared the treatment completers and drop-outs in a group therapy program. Drop-outs were found to have reported drinking during the therapy period.
Baaekeland and Lundwall (1975) in their review of literature on the drop-out, found that in-patient settings had lower drop-out rates (14-39%) than out-patient settings, where it is reported that 52-75% of clients drop-out before the fourth session. Even among in-patients a significant portion leave treatment before any therapeutic change can occur. Silberfeld and Flaser (1978) report that the attrition rate from an out-patient treatment was 83% during the first three months.

Roffe (1981) differentiated the alcoholics who completed an 8-week in-patient treatment program and those who left prematurely. History of prior treatment for alcoholism was found to be having sufficient predictability of drop-out.

Sullivan, Targum and Advani (1981) attempted to distinguish potential drop-outs from those who complete treatment program. Results indicate that more drop-outs than completers had prior hospitalization for alcoholism treatment. Family members were involved in the treatment of 18% of the drop-outs and 48% of the completers.

Leigh, Ogborne and Cleland (1984) studied the nature of drop-outs in 172 clients of an out-patient alcoholism treatment program. One of the best predictors of drop-out was length of delay between appointments.
Obinali (1986) attempted to identify factors which differentiated between alcoholics who successfully completed a residential treatment program and those who did not. Clients were categorized into 1. 'successful' or 2. 'unsuccessful' groups. Attendance to A.A. meetings was positively associated with successful completion.

4. Drinking related factors associated with attrition from treatment:

Baekeland et al. (1973) studied the correlates of attrition in the out-patient treatment of alcoholism. They found that immediate drop-outs (those who failed to return after the first visit) were characterized by ambivalence about initiating treatment and were not abstinent on admission. Slow drop-outs (those who dropped-out during the second to fifth month of treatment) had alcoholic relatives.

Roffe (1981) differentiated the alcoholics who completed an 8-week in-patient treatment program and those who left prematurely. Results indicate that maternal drinking was found to have sufficient predictability of drop-out. Individuals who evaluated their drinking as only a slight to moderate problem were found to have left the treatment prematurely.

Sullivan, Targum and Advani (1981) attempted to distinguish potential drop-outs from those who completed a
treatment program. Results indicate that more drop-outs than completers were more likely to have history of late onset problem drinking.

Welte, Hynes, Sokolow and Lyons (1981) attempted to distinguish the clients who completed the alcoholism treatment program from clients who left prematurely. They found that completers drank less than the drop-outs.

Leigh, Ogborne and Cleland (1984) studied the treatment drop-outs in 172 clients in an out-patient alcoholism treatment program. Predictors of drop-out were found to be the number of prior alcohol related arrests, the use of illicit drugs and scores on the MAST.

Beckman and Bardsley (1986) studied the individual characteristics among drop-outs from alcoholism treatment. Both male and female alcoholics who had dropped-out from the treatment were found to be having greater severity of drinking problems, than the clients who completed treatment.

As it transpires from the scan of literature, the factors related to interventions with alcoholism have been studied in a fractionated manner, keeping in view of the totality of the problem. Therefore, the present attempt is to put the loose ends together in viewing the arena of therapeutics in this area.