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Intensive Case Studies of the Most and Least Successful Subjects in a Holistic Program and a Social Skills Training Program for Schizophrenics

David Lukoff
Loyola University Chicago

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INTENSIVE CASE STUDIES OF THE MOST AND LEAST SUCCESSFUL SUBJECTS IN A HOLISTIC PROGRAM AND A SOCIAL SKILLS TRAINING PROGRAM FOR SCHIZOPHRENICS

by

David Lukoff

A Thesis Submitted to the Faculty of the Graduate School of Loyola University of Chicago in Partial Fulfillment of the Requirements for the Degree of Master of Arts

April

1980
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VITA

The author, David Lukoff, is the son of Drs. Irving and Judy Lukoff. He was born June 26, 1948, in New York City.

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TABLE OF CONTENTS

ACKNOWLEDGMENTS ........................................... ii
VITA .......................................................... iii
LIST OF TABLES ................................................ vii
LIST OF FIGURES ............................................. ix
CONTENTS OF APPENDICES .................................. xi

Chapter

I. THE PROBLEM OF RELAPSE IN SCHIZOPHRENIA .... 1
   Objectives of this Research Project .......... 4
   Research Strategy .................................. 5

II. SCHIZOPHRENIA AS A PSYCHOSOMATIC DISORDER ... 8
   History of the Psychosomatic Concept
      in Schizophrenia .................................. 8
   Classification of Psychosomatic Illness ... 13
      Psychosocial Influences on the
         Cause of Schizophrenia ...................... 13
      Hyperarousal of the Autonomic
         Nervous System ................................ 20
      Brain Functioning in Schizophrenia
         and Stress .................................... 23
      Diathesis-Stress Model of Schizophrenia .... 27

III. REVIEW OF THE LITERATURE ON HOLISTIC AND SOCIAL
   SKILLS TRAINING ...................................... 31
   Holistic Treatment .................................. 31
   Status of Treatment ................................ 31
   Principles of Holistic Treatment .............. 34
   Applicability of Pelletier's
      Principles to Schizophrenia ................. 37
   A Model Holistic Program ......................... 39
   Rationale for Incorporating Exercise
      and Relaxation Techniques .................... 40
   Research on Relaxation ........................... 42
   Research on Exercise .............................. 45
   Social Skills Training .............................. 48
      Schizophrenia and Social Skills
      Deficits ......................................... 48
   Social Skills Training with
      Schizophrenics .................................. 50
IV. METHODS .............................................. 55

Subjects ............................................... 55
Procedures ............................................. 59
  Social Skills Training Procedures ........... 59
  Holistic Stress Management
  Procedures ....................................... 64
Dependent Measures ................................. 80
Validation of Interpretations ..................... 80

V. MOST SUCCESSFUL HOLISTIC PATIENT: B. ............. 86

Mental Status and Behavior on Admission .......... 86
Psychiatric History .................................. 86
Personal History ..................................... 89
Family History ....................................... 90
Results: Treatment Phase ........................... 92
Participation in the Holistic Program .......... 99
Results: Aftercare Phase ......................... 104
Interview Results ................................... 108
Discussion ........................................... 109

VI. LEAST SUCCESSFUL HOLISTIC PATIENT: J. ............ 118

Mental Status and Behavior on Admission .......... 118
Psychiatric History .................................. 118
Personal History ..................................... 119
Family History ....................................... 121
Participation in the Holistic Program .......... 123
Results: Treatment Phase ........................... 124
Results: Aftercare Phase ......................... 135
Interview Results ................................... 139
Discussion ........................................... 140

VII. MOST SUCCESSFUL SOCIAL SKILLS PATIENT: T. ....... 147

Mental Status and Behavior on Admission .......... 147
Psychiatric History .................................. 147
Family History ....................................... 148
Participation in Social Skills Training
  Program ........................................... 151
Results: Treatment Phase ........................... 153
Results: Aftercare Phase ......................... 165
Interview Results ................................... 170
Discussion ........................................... 172

VIII. LEAST SUCCESSFUL SOCIAL SKILLS TRAINING
  PATIENT: S. ........................................... 177

Mental Status and Behavior on Admission .......... 177
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychiatric History</td>
<td>177</td>
</tr>
<tr>
<td>Personal History</td>
<td>178</td>
</tr>
<tr>
<td>Family History</td>
<td>180</td>
</tr>
<tr>
<td>Participation in the Social Skills Training</td>
<td>182</td>
</tr>
<tr>
<td>Results: Treatment Phase</td>
<td>184</td>
</tr>
<tr>
<td>Results: Aftercare Phase</td>
<td>195</td>
</tr>
<tr>
<td>Interview Results</td>
<td>199</td>
</tr>
<tr>
<td>Discussion</td>
<td>200</td>
</tr>
<tr>
<td>IX. DISCUSSION</td>
<td>205</td>
</tr>
<tr>
<td>Predictions for the Holistic Patients</td>
<td>205</td>
</tr>
<tr>
<td>Predictions for the Social Skills Patients</td>
<td>208</td>
</tr>
<tr>
<td>Factors Affecting Outcome</td>
<td>211</td>
</tr>
<tr>
<td>Interjudge Reliability</td>
<td>214</td>
</tr>
<tr>
<td>Consensual Validity</td>
<td>215</td>
</tr>
<tr>
<td>Suggestions for Treatment Programs</td>
<td>218</td>
</tr>
<tr>
<td>Future Studies</td>
<td>219</td>
</tr>
<tr>
<td>Table</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>1. Social Skills Training Program Schedule</td>
<td>65</td>
</tr>
<tr>
<td>2. Outline of Tuesday and Thursday Afternoon Stress Management</td>
<td>69 - 72</td>
</tr>
<tr>
<td>Education Sessions</td>
<td></td>
</tr>
<tr>
<td>3. Outline of Tuesday Evening Holistic &quot;Growth and Schizophrenia&quot;</td>
<td>74 - 75</td>
</tr>
<tr>
<td>Sessions</td>
<td></td>
</tr>
<tr>
<td>4. Outline of Monday Afternoon &quot;Developing Positive Beliefs&quot; Sessions</td>
<td>76 - 77</td>
</tr>
<tr>
<td>5. Outline of Thursday Evening Self-Esteem Sessions</td>
<td>78 - 79</td>
</tr>
<tr>
<td>6. Holistic Stress Management Program Schedule</td>
<td>81</td>
</tr>
<tr>
<td>7. Dependent Measures</td>
<td>82 - 83</td>
</tr>
<tr>
<td>8. Interview Schedule</td>
<td>84</td>
</tr>
<tr>
<td>9. Psychiatric Assessment Scale Ratings on B.</td>
<td>94</td>
</tr>
<tr>
<td>10. Symptom Checklist-90</td>
<td>97</td>
</tr>
<tr>
<td>11. MMPI Scores of B.</td>
<td>101</td>
</tr>
<tr>
<td>12. Clinical Global Impressions Ratings on J.</td>
<td>126</td>
</tr>
<tr>
<td>13. Psychiatric Assessment Scale (PAS) on J.</td>
<td>128</td>
</tr>
<tr>
<td>14. Brief Psychiatric Rating Scale (BPRS) on J.</td>
<td>130</td>
</tr>
<tr>
<td>15. MMPI Scores of B.</td>
<td>134</td>
</tr>
<tr>
<td>16. Clinical Global Impressions (CGI) of Severity of T.'s Illness</td>
<td>154</td>
</tr>
<tr>
<td>17. Brief Psychiatric Rating Scale (BPRS) Scores.</td>
<td>156</td>
</tr>
<tr>
<td>18. Psychiatric Assessment Scale (PAS) Ratings on T.</td>
<td>158</td>
</tr>
<tr>
<td>19. Symptom Checklist-90 Scores of T.</td>
<td>162</td>
</tr>
<tr>
<td>20. MMPI Scores of T.</td>
<td>163</td>
</tr>
</tbody>
</table>
Table 21. Psychiatric Assessment Scale (PAS) Ratings on S. 185

Table 22. Clinical Global Impressions (CGI) of Severity of S.'s Illness 187

Table 23. Symptom Checklist-90 Scores of S. 190

Table 24. MMPI Scores of B. 193

Table 25. Correlations Between Mean BPRS Ratings of 46 Board-and-Care Residents and S.'s Discharge Scores. 203

Table 26. Summary of Outcomes 206
<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The Diathesis-Stress Model of Relapse</td>
<td>30</td>
</tr>
<tr>
<td>2. Hospitalization and Work History of B.</td>
<td>87</td>
</tr>
<tr>
<td>3. PAS Ratings of B.</td>
<td>95</td>
</tr>
<tr>
<td>4. Clinical Global Improvement Ratings of B.</td>
<td>96</td>
</tr>
<tr>
<td>5. Number of Items Rated Positively by B. on the SCL-90</td>
<td>98</td>
</tr>
<tr>
<td>6. Positive Symptom Distress Index of B. Reflecting Severity of Symptoms</td>
<td>100</td>
</tr>
<tr>
<td>7. Medication Adherence Record of B.</td>
<td>105</td>
</tr>
<tr>
<td>8. Hospitalization and Work History of J.</td>
<td>120</td>
</tr>
<tr>
<td>9. Clinical Global Improvement Ratings of J.</td>
<td>125</td>
</tr>
<tr>
<td>10. PAS Ratings of J.</td>
<td>129</td>
</tr>
<tr>
<td>11. Number of Items Rated Positively by J. on the SCL-90</td>
<td>132</td>
</tr>
<tr>
<td>12. Positive Symptom Distress Index of J. Reflecting Severity of Symptoms</td>
<td>133</td>
</tr>
<tr>
<td>13. Medication Adherence Record of J.</td>
<td>136</td>
</tr>
<tr>
<td>14. Relationship Between Ratings of Dysphoric Affect and Grandiosity in J.'s BPRS Scores</td>
<td>144</td>
</tr>
<tr>
<td>15. Hospitalization and Work History of T.</td>
<td>149</td>
</tr>
<tr>
<td>16. Clinical Global Improvement Ratings of T.</td>
<td>155</td>
</tr>
<tr>
<td>17. PAS Ratings of T.</td>
<td>159</td>
</tr>
<tr>
<td>18. Number of Items Rated Positively by T. on the SCL-90</td>
<td>160</td>
</tr>
<tr>
<td>19. Positive Symptom Distress Index of T. Reflecting Severity of Symptoms</td>
<td>161</td>
</tr>
<tr>
<td>20. Medication Adherence Record of T.</td>
<td>168</td>
</tr>
</tbody>
</table>
Figure | Page
--- | ---
21. Hospitalization and Work History of S. | 179
22. PAS Ratings of S. | 186
23. Clinical Global Improvement Ratings of S. | 188
24. Number of Items Rated Positively by S. on the SCL-90. | 191
25. Positive Symptom Distress Index of S. Reflecting Severity of Symptoms | 192
26. Medication Adherence Record of S. | 197
# CONTENTS FOR APPENDICES

<table>
<thead>
<tr>
<th>APPENDIX A</th>
<th>Story by B.</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>232</td>
</tr>
</tbody>
</table>
CHAPTER I

THE PROBLEM OF RELAPSE IN SCHIZOPHRENIA

In the early research on mental disorders, Kraepelin (1919) separated dementia praecox from manic depression on the basis of ultimate deterioration in cases of the former. The Kraepelinian tradition persists today, and many theorists (Feighner, Guza, Woodruff, Winokur, and Woodruff, 1972; Kety, 1975) still maintain that a definite diagnosis of schizophrenia can be made only if symptoms persist chronically and a deteriorating, unremitting disease course ensues.

However, more recent evidence casts doubt upon this formulation of schizophrenia as a permanent condition leading to deterioration and chronic institutionalization. Bleuler's (1974) lifetime follow-up of 208 schizophrenics found that only 10% of his patients showed the type of disease course described as typical in Kraepelin's writings. Half the patients achieved an adequate adjustment in the community, and the other 40% lived most of their lives in the community and were hospitalized only occasionally. Recent researchers have reported difficulty in even locating such nuclear schizophrenics to study (Hawk, Carpenter, and Strauss, 1975).

With the decline in the prevalence of chronic hospitalization, a new pattern has emerged as characteristic of schizophrenia. This course involves brief episodes of illness, recovery, relapse, and recovery again. Davis (1975) reviewed 24 double-blind placebo and drug maintenance studies of schizophrenics who were released following hospitalization. He found
that 40% of the patients (65% in the placebo group and 30% in the drug group) relapsed during the two year follow-up. Sixty percent weathered the two year period without a relapse.

While the census in state mental hospitals has declined 65% since 1955, from 559,000 to 193,000 in 1974, admissions to state hospitals have increased 219% during roughly the same period, from 178,000 in 1955 to 390,000 in 1972. Sixty-four percent of the admissions were readmissions signifying a high turnover of patients through short periods of hospitalization. The problem of relapse has emerged as the most prominent issue in the maintenance treatment of schizophrenic patients today with half of released inpatients readmitted within two years of discharge (Bassuk and Gerson, 1978).

Unfortunately, no form of psychosocial treatment has demonstrated an impact on the revolving-door, discharge-readmission pattern of relapsing schizophrenics. Despite the development of anti-psychotic drugs, milieu and behavioral therapies, and community care facilities over the past 20 years, the rate of relapse and rehospitalization has not diminished (Talbott, 1974). Even the neuroleptic drugs do not prevent relapse; rather, they extend periods of remission (Hogarty, 1974). The need for a more effective treatment for the 90% of the estimated two million schizophrenics whose illness takes an episodic course is apparent.

The Clinical Research Unit, jointly sponsored by the UCLA-NPI Department of Psychiatry and Camarillo State Hospital, recently received a grant from NIMH to undertake the task of designing and evaluating two very different types of intensive therapy programs for preventing relapse in schizophrenics. One is a holistic stress-management program
and the other is a social skills training program. Both programs are new interventions for this population. No previous research has evaluated their effectiveness in improving the community tenure of schizophrenics. However, both approaches rest on a firm foundation of research with schizophrenics. The holistic program is based on findings that schizophrenia can be viewed as a psychosomatic disorder and that schizophrenics have deficits in managing stress which constitute a major cause of their symptomatic relapse. The social skills training program is based on findings that schizophrenics have deficits in independent living, social role performance, and interpersonal interaction skills which interfere with their functioning competently in the community and are another major cause of their hospitalization.

The research project was initially funded by NIMH to develop and evaluate the social skills training program. The experimental design which the study committed itself to in the grant application required a comparison between two groups receiving different treatments. The holistic program was born as the result of the need by the researchers to execute the two-group experimental design and also comply with the ethical demand to provide a potentially effective alternative for the patients in the control group. In the overall design of the project, the holistic treatment was conceptualized as a control or placebo treatment. However, the author assumed the responsibility for designing and supervising the holistic program. It was the author's intention to make the holistic program as effective as possible.
Schizophrenia produces such a wide range of symptoms and outcomes that the likelihood of multiple causation seems high. Therefore, this study should not be viewed as testing the validity of the social skills deficit versus stress hypotheses. Both lack of social skills and inability to handle stress may influence the course of schizophrenia. As treatments, social skills training and stress reduction training could produce benefits that are additive. However, research not only tests hypotheses such as which treatment is more effective, but also yields returns in exploring unknown territory. Both social skills training and holistic treatments for schizophrenic patients have not been rigorously evaluated. The results of this study will certainly contribute to the data base which needs to be expanded considerably before final conclusions regarding the benefits of both treatments can be drawn. The experimental paradigm can be used to bear fruit even though hypothesis testing, for which it was initially developed, may not be the most important part of its yield.

Objectives of this Research Project

In order to start gathering information before the final harvest, this thesis will develop four intensive case studies of the most and least successful patients from the first 10 patients to finish the holistic and social skills training programs. A focus in these case studies will be to explore how the program affected the patients' lives during and after treatment. Particular attention will be paid to the patients' subjective evaluations of how relevant the particular intervention was for them. The objective is to gain some understanding of how patients
experience these two treatments.

A second objective of compiling these four case studies is to gain insight into what characteristics of patients are predictive of good candidates for each of the two types of treatment approaches. In particular, the role of stressful life changes preceding hospitalizations will be examined for the two holistic subjects. The prediction that the most successful holistic patient will show clearer stress precipitants to incidents of symptomatic exacerbation will be evaluated.

For the two social skills training subjects, premorbid level of social functioning will be assessed and compared with posttreatment level of social functioning. The prediction is that the most successful patient's level of social competence improves more than that of the least successful patient. This hypothesis is not as tautological as it first appears. While social competence has been shown to be related to a host of other adjustment variables, research has not established that interventions which improve individuals' social skills affect other dimensions of their lives. The relationship between gains in social skills and improved ability to live in the community is still hypothetical and open to examination.

Research Strategy

There are two basic models for intensive case studies. The traditional clinical model involves a long-term, intense, personal, one-to-one relationship between the therapist and the patient. Freud pioneered this approach with his famous 1905 publication "Fragment of an analysis of a case of hysteria," now usually called the Dora story. In this
approach, the case history is the story of the relationship as it evolves during the course of therapy. Insights and changes in the relationship are the foci. Usually the outcome of the therapy is reported in terms of an improvement in social functioning and resolution of intrapsychic conflicts.

The other basic model is the single case experimental design which relies on manipulation of environmental conditions in a controllable setting such as a hospital unit or a classroom. For example, contingencies for certain behaviors can be applied and withdrawn to assess their effects on a target behavior. This approach has become popular with behaviorists who have created the Journal of Applied Behavior Analysis originally devoted solely to such case studies. Recently several books have emerged detailing the subtleties of ABAB designs and statistics for single cases (Hersen and Barlow, 1976).

However, in this research study, neither of these two approaches has been followed. All treatment is conducted in a group setting, and personal, one-to-one relationships between therapists and the patients are discouraged. Patients cannot drop by the therapists' offices during free time because therapist-patient contact is carefully equated between the two treatments. Therapists rotate daily between treatments which disrupts continuity. Contact is limited to the nine week treatment period. Therefore therapists do not emerge with the kind of information used as the basis of a clinical case study. They have administered an experimental procedure more than they have conducted therapy.

The emphasis on procedures places this research closer to the single
case experimental design model. However, both the social skills training and the holistic program are concerned primarily with skills training. Hence, the usual strategies of reversal and withdrawal could not be carried out. The target behaviors are meant to be operative at a later date, once the patient is in the community. Withdrawing the contingencies and structure would simply reduce the amount of rehearsal and training time they receive during the nine treatment weeks.

Yet, many of the dependent measures are given biweekly during the 10 week treatment program and at regular follow-up testings. The number of data points allows the patients' progress to be tracked during and following treatment in a manner similar to a single case experimental design. Also, as a primary therapist, I spent 16 hours a week divided equally between the two treatment groups. I also drove and escorted both groups on community trips twice a week in the afternoon, and once a week in the evening for dinner at a restaurant. Thus, I spent at least 14 hours each week with each patient, although in groups of three or six. Despite the lack of one-to-one contact, close relationships often did develop as the result of such extensive contact. Thus, enough contact and experimental control was maintained to attempt a hybrid of the single case experimental design and clinical case study approaches.
CHARTER II

SCHIZOPHRENIA AS A PSYCHOSOMATIC DISORDER

Selye, the father of modern stress research, has observed that: "In man, with his highly developed nervous system, emotional stimuli are in fact the most common stressors— and of course, these would be encountered most frequently in psychiatric patients" (Selye, 1975, p. 18). Yet, schizophrenia has not generally been considered a psychosomatic illness, that is, a disorder of the central nervous system modulated by psychosocial stresses in the environment with the brain as the affected organ. Historically and by practice, psychosomatically oriented clinicians and researchers, as well as the psychiatrists and psychologists who treat schizophrenics, have kept schizophrenia conceptually split off from serious consideration within the psychosomatic paradigm. A small number of researchers and clinicians have proposed a psychosomatic model for schizophrenia but with little impact on theory or treatment thus far.

However, there is considerable evidence linking schizophrenia with psychosocial stress. This chapter will review earlier formulations of schizophrenia as a psychosomatic illness and present evidence that schizophrenia fits the criteria for a psychosomatic illness.

History of the Psychosomatic Concept in Schizophrenia

Carl Jung must be credited with first presenting the argument that schizophrenia is "psychogenic," an earlier term for psychosomatic. Over
50 years before research linked hospitalization in schizophrenia with life change events he wrote,

It is quite common for a renewed attack to occur when an engagement, marriage, or any similar event is imminent. The outbreak and development of the disease is often determined by psychological motives (Jung, 1960/1919, p. 216).

At a time in psychiatry when Kraepelinean dominated research in schizophrenia consisted mainly of slicing and staining brains of dead schizophrenics to locate the (yet to be found) brain pathology, and schizophrenia was called "dementia praecox," with the explicit assumption of deterioration of brain tissue, Jung wrote:

If dementia praecox were due essentially to a process of organic destruction, patients would behave like those showing actual changes in the brain. A patient suffering from general paralysis does not improve or become worse as the result of a change in his psychological condition, nor are such cases noticeably worse in poorly run asylums, but cases of dementia praecox are distinctly worse when the external circumstances are unfavourable (Jung, 1960/1919, p. 218).

Jung did not rule out organic involvement and allowed for "cases in which the organic processes are primary and the disturbances of the psychic functions secondary (p. 225)". But, in anticipation of the psychosomatic perspective, he argued that any central nervous system damage in schizophrenia was usually due to a prolongation of the highly aroused schizophrenic state which disturbed the metabolism severely enough to result in irreversible damage:

The affect in dementia praecox favours the appearance of anomalies in the metabolism-toxins, perhaps, which injure the brain in a more or less irreparable manner, so that the highest psychic functions become paralyzed (Jung, 1960/1907, p. 36).

Jung viewed the affect in schizophrenia as resulting from an unresolved conflict, and he held that psychotherapy could prevent the occurrence of a schizophrenic episode by helping the patient find a solution to
his/her conflicts.

By focusing on the psychosocial antecedents to schizophrenic episodes, and by maintaining that any tissue damage results from the disturbed metabolism precipitated by the stress ("conflict"), Jung presented the psychosomatic argument for schizophrenia long before that concept was even developed or accepted for ulcers. And yet his views on the subject are virtually unknown to researchers, even those who currently are trying to establish the relationship between schizophrenia and stress. In none of the subsequent articles which argue the same thesis was Jung ever cited.

Starting in the 1930's, Harry Stack Sullivan tried to convince psychiatrists to view schizophrenia as a human process rather than simply an organic process. Most psychiatrists would not treat schizophrenics after Freud made the observation that psychoanalysis did not work with them. Sullivan, who was subject to schizophrenic episodes himself, was a pioneer in developing interpersonally focused therapy techniques for schizophrenics. He did not write much on the particular nature of the disease process in schizophrenia, but his view clearly was in tune with a psychosomatic perspective: "It is primarily a disorder of living...The person concerned becomes schizophrenic--as one episode in his career among others--for situational reasons and more or less abruptly" (Sullivan, 1953, p. 149).

The person usually given credit for first presenting the psychosomatic viewpoint of schizophrenia is Silvano Arieti. In 1956 he wrote an article entitled, "The possibility of psychosomatic involvement of the central nervous system in schizophrenia." Despite the wide influence
his other views on schizophrenia and psychiatry have had on the field (editor, *American Handbook of Psychiatry*; winner, National Book Award), this viewpoint of his did not generate much attention. He hypothesized that:

an area where further expansion is urgently needed is the study of the central nervous system itself in the field of psychosomatic medicine. Only an historically determined trend toward disconnecting psychiatry entirely from neurology is responsible for the fact that whereas every organ or system of the body (such as skin, cardiovascular, and gastrointestinal apparatus, etc.) has been recognized as affected by many psychosomatic disorders, the central nervous system has been given only secondary consideration. And yet the central nervous system is the organ of highest functionality; it is the organ which is first affected by psychogenic stimuli before they are channeled toward the other organs of the body. Could it not be that under a certain psychological stress a more or less specific disintegration of habitual neuronal patterns takes place? (Arieti, 1956, p. 324)

Arieti was thus the first person to suggest that schizophrenia should be examined within the developing psychosomatic movement. However, he himself took no further action in his subsequent writings or research on schizophrenia to promulgate this thesis.

Several years later, Chapman, Hinkle, and Wolff (1960) related schizophrenia to faulty adaptation to the environment:

The evidence previously cited indicates that when an individual perceives himself to be dangerously or overwhelming threatened for long periods, and some satisfactory level of overall adaptation cannot be achieved, the functions of the brain are impaired (at first readily reversible and ultimately less so). Schizophrenic psychoses may be initiated in individuals during such periods (p. 200).

Although their formulation derives from an ecological perspective (they use the terms organism, environment, and adaptation throughout their article), the authors go on to make a very important point about people's proclivity to generate much of their own stress:

Man's special ability to react to *symbols* as though to significant
events, enhances his ability to perceive threats. . . since pain or damage to tissue provokes vigorous general and local protective reactions, symbols of destructive experiences can also evoke such reactions, often to a degree far more costly to the individual than the actual effects of the assaults they symbolize (p. 202).

Symbolic threats, such as to a person's self-esteem or security, are usually psychosocial in nature. Thus, the authors can be viewed as advancing a version of the psychosomatic hypothesis of schizophrenia.

Recently in the journal *Psychosomatics* published by the Academy of Psychosomatic Medicine, Brill (1978) presented the psychosomatic viewpoint of schizophrenia to members of the psychosomatic "establishment":

Schizophrenia might be a true psychosomatic disorder, that is, a condition in which the function of an organ (the brain) is disturbed or abnormal because of emotional stress or conflict, and in which the symptoms are the result of the organ's dysfunction (p. 665).

After reviewing the available findings on somatic and neurophysiological differences between schizophrenics and normals, Brill concluded:

Abnormalities of these functions suggest some brain dysfunction—and in the absence of recognizable or identifiable organic disease, and in the presence of overwhelming conflict, fear, anger or other emotion, it is reasonable to postulate that the brain dysfunction is psychogenic (p. 669).

To date, only a handful of researchers and clinicians have subscribed to a psychosomatic orientation towards schizophrenia. To this author's knowledge, the psychosomatic perspective is not presented in any of the major medical, psychiatric, or abnormal psychology textbooks which are used to train future researchers and clinicians. Even the writings just reviewed represent excursions by the authors from which they returned to their main line of endeavor. The impact of the psychosomatic perspective on research has been minimal, and on treatment, practically nil.
Classification of Psychosomatic Illnesses

In order to demonstrate that schizophrenia can be considered a psychosomatic illness, it is necessary to show that it meets the accepted criteria used to classify illnesses into that category. Grings and Dawson (1978) have characterized the necessary-conditions hypothesis of psychosomatic illnesses operationally:

In order for a psychosomatic disorder to become manifest, certain circumstances must occur. One of these is exposure to stressful or emotion arousing situations. Assuming prolonged exposure to such stressful events, the person who is susceptible to some sort of physiological breakdown is one who does not have effective mechanisms for coping with and modulating the emotional arousal. Finally it is assumed that individual response stereotypy operates to produce strong reactions within certain response systems, thus increasing the vulnerability of that response outlet as the focus of the physiological complaint (p. 124, emphasis and numbering added).

Evidence relating to all three of these criteria will be presented to support the view that schizophrenia is a psychosomatic illness. First, the research concerning psychosocial influences on the course of schizophrenia will be presented to demonstrate that schizophrenic relapse is influenced by exposure to stressful psychosocial events. Second, the psychophysiological research which shows that schizophrenics have hyper-aroused autonomic and central nervous systems will be reviewed to show that schizophrenics do not have effective mechanisms for modulating emotional arousal. Third, research on the relationship between brain functioning and stress will be presented along with the evidence for hyperactive response stereotypy in the brains of schizophrenics.

Psychosocial Influences on the Course of Schizophrenia

This section will review empirical evidence concerning the immediate effect of psychosocial factors on the course of schizophrenia. The research
on events occurring during infancy and childhood are important for a complete perspective on the etiology of schizophrenia and ultimately for the design of preventive interventions. But such findings are not as relevant to the psychosomatic hypothesis as is research that onset, risk of relapse, and the subsequent course of schizophrenia are influenced by proximate social events occurring during adulthood. Several different lines of evidence involving psychosocial factors will be reviewed including research on life changes, home environments, and business fluctuations.

In the early 1960's, Rahe and Holmes (1964) developed a method of standardizing life change measurement where typical life-change events were weighed according to their various degrees of significance for the average individual. For example, death of a spouse has a value of 100 on the Social Adjustment Rating Scale; pregnancy has a value of 40; starting or finishing school has a value of 26; vacation has a value of 13. In a prospective study of 84 physicians, Holmes and Masuda (1973) used life-change events for the previous 18 months as a quantitative measure for predicting the onset of illness eight months later. Of those reporting over 300 life-change units, 49% reported a major illness; 25% of those with 200-299 units reported illness; and only 9% of those with 150 - 199 units reported any illness.

Such life changes signify transitions in a person's psychosocial life adjustment...Subjects' recent levels of life changes do reflect current environmental demands to which most persons endeavor to adjust. Psychological and physiological efforts necessary for such adjustment, if severe and/or protracted in time, appear to predispose individuals towards the development of illness (Rahe and Arthur, 1978, p. 4).
hospitalization, pregnancy complications, diabetes, arthritis, traffic accidents, cardiovascular disease, strokes, and also to schizophrenia.

One study that demonstrates this relationship between schizophrenia and life changes was conducted by Brown and Birley (1968). They compared the data from 50 recently hospitalized schizophrenics with results from 375 employees from local businesses. The authors analyzed interviews of the patients and their relatives for life changes which were independent of the illness and outside of the patient's control: illness in relatives, arrest of a brother, evictions. This tactic controlled for the criticism often leveled against this type of research that many events considered as precipitants could have been brought about by the unnoticed onset of the illness itself. Thus, loss of a job or breakup of a relationship were excluded from consideration as independent life events. Results showed that 46% of the schizophrenic patients had at least one independent life change in the three weeks prior to onset whereas only 14% of the comparison group did (p < .001). However, the incidence of life changes among patients in the other time periods studied, ranging from 4 - 12 weeks prior to hospitalization, were not significantly different for the two groups: 12% versus 15%.

Reviewing this study and others undertaken by Brown, the authors conclude:

For schizophrenic patients most life events serve to trigger the florid onset of symptoms in those who are predisposed and are experiencing tense and difficult situations either at home or at work or in some key relationship; but that for some, events may be sufficiently traumatic to bring about onset without the experience of such situations (Brown, Harris, and Peto, 1973, p. 169).

Jacobs and Myers (1976) also conducted a life-events study on
62 first admission schizophrenic patients and 62 controls matched on the basis of age, marital status, sex, socioeconomic status, and race. They found that "first admission schizophrenic patients were found to report more recent life events overall" with 82.3% reporting at least one undesirable event in the year preceding hospitalization versus 51.6% of the controls (p. 75). The occurrence of role transitions such as starting school, starting first job, getting engaged, retiring, etc., was markedly higher among the schizophrenic patients.

Steinberg and Durrell (1968) studied one particular life change known to require considerable psychosocial adjustment: recruitment into the U.S. Army. By reviewing the service records of every noncommissioned soldier in the U.S. Army hospitalized for schizophrenia between 1956 and 1960, they showed that there was a significantly higher rate of such hospitalizations in the first year of service as compared with the second year. During the first month in particular, the rate was over six times that during the second year. They concluded that:

the hypothesis which seems most attractive to us, however, and with which the data are at least consistent, is that the emotional stress associated with the necessity of making a social adaption was effective in inducing the onset of schizophrenic symptoms (p. 1102).

Serban (1975) approached the question of stress and schizophrenia from a different methodological standpoint. Rather than studying acutely stressful life changes, he measured the level of stress experienced in relation to daily functioning. Twenty-one specific dimensions of community functioning were assessed separately in the following areas: social performance (education, job, housekeeping, dependence on welfare, finances, living circumstances); family interaction (relationship with
parents, relatives, marital partner, children); social interaction
(dating, sex, friends, neighbors, community at large, leisure time,
religion); social maladaptive activities (drinking, drugs, antisocial acts).
The Social Stress and Functionability Inventory for Psychotic Disorders
assesses the level of functioning in each of these areas and also the
level of stress experienced on a scale from 1 to 3. Six hundred and forty-one
schizophrenic patients were compared with 95 normals. Patients were
found to be able to function only marginally and therefore to have diffi-
culty in meeting the demands of daily living. The chronic schizophrenics
reported significantly (p. < .01) higher stress in 13 of the 19 areas
(none of the normals reported taking addictive drugs or manifesting anti-
social behavior so no comparison of stress level was possible for these
two areas). Serban describes the surrounding world of the chronic schizo-
phrenic patient as: "A source of turmoil: almost everything creates
anxiety and discomfort...Their relationship to the environment shows the
extent of their difficulty in perceiving meaningful reality. Everything
appears to represent either an insurmountable demand which society
places on them, or worry induced by frustrated expectations" (p. 405).
Serban's research indicates that the demands of daily living produce a
state of elevated stress for many schizophrenics.

Another area where psychosocial influences have been shown to
influence the course of schizophrenia involves the patient's home environ-
ment. Several studies have demonstrated an association between certain
types of family behavior and the patient's relapse. Brown, Birley, and
Wing (1972) consecutively interviewed all schizophrenics and their
families who lived in a defined geographic area and who had an episode
requiring treatment after a certain date. These 101 patients and their families were interviewed at the onset of treatment and 9 months after discharge. Interviews with relatives were coded for three types of comments indicating "Expressed Emotion" (EE): criticism, hostility, and overinvolvement. Critical comments were noted on the basis of content and tone of voice. For example, a statement that the patient lay in bed all day would not be rated as critical if made in a matter-of-fact way; a critical tone of voice must be present to be rated as such. The raters were able to attain high interrater reliability on this measure, as well as on hostility and overinvolvement. Hostility involved not just a critical remark about a behavior, but either a generalization of criticism or a rejection of the patient as a person. For example, "he lies in bed all day and is the laziest person in the world." Emotional overinvolvement refers to comments indicating obvious and constant anxiety about minor matters such as the patient's diet and the time he comes home in the evening as well as markedly protective attitudes. Other attitudes were also studied, but relapse over the 9 month period was found to be significantly associated with only these three measures. Dividing families at the median point into high or low EE homes, 58% from high EE homes relapse compared to 16% from low EE homes (p < .001).

This association could be explained in two ways. It could be that the more disturbed the patient's behavior, the more likely are the relatives to respond with criticism, hostility, and overinvolvement, and that such deteriorated patients are also more likely to relapse. In this interpretation, there is no casual link between EE and relapse. Therefore, Brown, Birley, and Wing constructed a behavioral disturbance score based
on symptom scales filled out by the relatives. When this factor was controlled for, the statistical association between EE and relapse was not significantly reduced. This manipulation supports the alternative explanation of a direct link between relatives' EE and recurrences of schizophrenia in the patient.

A replication of this study was undertaken by Vaughn and Leff (1976). Utilizing a shortened version of the same interview schedule, they interviewed 37 schizophrenic patients and their relatives and conducted a follow-up 9 months later. Twenty-one families fit the criteria for the high EE group and 16 for the low EE group. Ten patients from high EE homes relapsed (48%) compared with one from a low EE home (6%), again demonstrating a significant relationship between high EE and relapse ($p < .01, r = .45$). Partialing out behavioral disturbance actually raised the correlation between EE and relapse ($r = .52$).

That such interaction with high EE relatives are physiologically stressful was demonstrated in a study by Tarrier, Vaughn, Lader, and Leff (in press). They recorded the rate of spontaneous electrodermal responses (EDR) from patients from high and low EE homes in their homes. The rate of spontaneous EDRs did not differ between the patients when the relative was absent, but there was significantly greater activity in the high EE group when the relative was present and talking to the patient. High EE patients also showed an increase in diastolic blood pressure in the presence of the relative whereas low EE patients showed a decrease.

Another psychosocial factor influencing the course of schizophrenia is the state of the economy. Brenner (1973) studied the relationship between admission rates to state hospitals in New York and fluctuations
in the unemployment rate. He found that for schizophrenics, the correlation is greater than .65 in most years between 1914 and 1960. For schizophrenic patients with grammar school educations, the relationship is strongest: in 38 of 46 years, the correlation is over .65. For schizophrenics with a college education, the correlation is over .65 in 23 of the 46 years. Brenner hypothesizes that this relationship is causal. Economic stress leads to family disorganization, which leads to an increase in the patient's symptoms, which in turn leads to hospitalization by the already stressed family. It is interesting to note that Foucault (1965), in his book on the development of the concept of mental illness, also related the evolution of hospitals for the insane to the history of society's efforts to deal with labor excess.

This review of the research on life-change events, home environments, and business-cycle fluctuations demonstrates compliance with Grings' and Dawson's first criterion of a psychosomatic illness: schizophrenic episodes are influenced by "exposure to stressful or emotion arousing situations."

Hyperarousal of the Autonomic Nervous System in Schizophrenia

Psychophysiological research has generally indicated that drug-free schizophrenics are in a state of hyperarousal of the autonomic nervous system (ANS). This result has been found in a variety of studies on several dimensions of the electrodermal response (EDR). The EDR, formerly called the galvanic skin response (GSR), is known to be mediated by the ANS. When off phenothiazines, chronic schizophrenics generally exhibit higher than normal basal levels across a variety of experimental situations. Bernstein
(1967) studied EDR arousal at rest and during repetitive stimulation in chronic schizophrenics and normal controls. He found that:

None of the several aspects of electrodermal activity examined indicated hypofunction among such patients relative to the general population; whenever significant differences appeared, they were consistently in the direction of hyperfunction among the chronic patients (p. 229).

DeWolfe, Youkiles, and Konieczny (1975) compared 20 schizophrenics with 20 hospital staff controls on average skin conductance and other measures during a music preference task. They concluded that: "The significantly lower levels of arousal for the controls on all physiological indices supported the expectation that the schizophrenics were at disruptively high levels of arousal, whereas the normals were not" (p. 195).

Ax, Bamford, Beckett, Fretz, and Gottlieb (1970) also compared 28 chronic schizophrenics and 18 normal subjects and found significantly (p < .05) higher average base levels of skin conductance suggesting a higher testing level of activation.

Drug-free schizophrenics have also been found to exhibit consistently higher than normal frequencies of spontaneous EDRs (Bernstein, 1967). Such spontaneous responses obtained when no stimuli are being administered are also considered to be a sign of heightened arousal. Further corroboration of ANS hyperarousal comes from research on habituation effects among chronic schizophrenics. Bernstein (1967) reported that: "Unlike Controls (or Drug patients), Non-Drug patients showed a general heightening of electrodermal arousal during repetitive innocuous stimulation" (p. 221).

In addition to the well-documented EDR research, other measures of arousal have also shown elevated levels with schizophrenics. In their review of the heart rate research, Gruzelier and Venables (1975) found
that:

In the majority of studies of the heart rate of schizophrenics high levels are reported (Jurko, Jast, and Hill, 1952; Gunderson, 1953; Williams, 1953). This conclusion is supported by the results in the present investigation where the heart rate levels of all schizophrenic groups were higher than those of the normal control group (p. 71).

DeWolfe, Youkilis, and Konieczny (1975) also found their sample of schizophrenics had higher heart rates than controls.

Another line of evidence indicating higher levels of physiological arousal among schizophrenics comes from drug tolerance studies:

Schizophrenic patients may sit up and talk coherently after an intravenous injection of sodium amytal or pentothal that would promptly put a normal individual to sleep. As a group, they are able to tolerate much larger amounts of phenothiazines and other tranquilizers than are normal people or other kinds of patients. (Brill, 1978, p. 667).

Phenothiazine drug research also demonstrates ANS hyperarousal among schizophrenics. Chlorpromazine and the family of phenothiazines are currently the most widely used medications for the treatment of schizophrenia. One of the primary effects of phenothiazines is to decrease both the resting activity level and the reactivity to stimuli of the autonomic nervous system. In one study, 40 chronic male schizophrenics were divided into two groups (Goldstein, Acker, Crockett, and Riddle, 1966). All were on a placebo and viewed a stressful film. Then one group was kept on the placebo and the other received phenothiazine medication. Nine days later, they were retested. The drug group showed significantly less heart rate reactivity to the second film compared to the first film when they were on the placebo, and showed clinical improvement as well. The placebo patients showed slightly greater heart rate response to the second film compared to the first film and did not show any clinical improvement.
In a double blind study, Spohn, Lacoursiere, Thompson, and Coyne (1978) compared 20 chronic schizophrenics receiving chlorpromazine with 20 receiving a placebo for 8 weeks using repeated measures. With regard to skin conductance, the authors report:

...that general arousal in the drug group is decreased over time and increased in the placebo group.

With respect to skin conductance reactivity, Figure 2 [not shown here] shows time trends for mean specific response amplitude in drug and placebo groups, indicating a reduction of amplitude of response to attentional and perceptual performance task stimuli over time in the drug group and a commensurate increase in the placebo group (Spohn et al., 1978, p. 639).

These changes represent a deactivation of the autonomic nervous system.

There is general agreement among researchers in this field that:

...the excessive psychophysiological arousal levels that often characterize schizophrenics are reduced by phenothiazines and that this decrease in arousal levels is associated with improved psychological functioning and clinical improvement (Tecce and Cole, 1972, p. 181).

In fact, the Kornetsky-Mirsky (1966) phenothiazine action model postulates that dearousal is the primary drug action, and that the improved attention span for which the drug is administered is contingent upon its deactivation of the autonomic nervous system.

Grings and Dawson's second criterion is that the individual with psychosomatic illness "does not have effective mechanisms for coping with and modulating the emotional arousal." The psychophysiological research reviewed above indicates that drug-free schizophrenics exist in a state of heightened ANS arousal demonstrating their inability to cope with and modulate their arousal.

Brain Functioning in Schizophrenia and Stress

Grings and Dawson's third criterion for the development of a psycho-
somatic disorder involves individual response stereotypy which produces particularly strong reactions in certain response systems. Ulcer patients, for example, tend to react to stress with increased secretion of HCL acid whereas asthmatics respond within their respiratory system.

It is surprising that the brain has generally been overlooked as a site for psychosomatic disorders given the central role that it plays in generating and regulating the stress response. Although some stressors can elicit a response without central nervous system mediation (e.g., a burning object touching the skin) most stressors are first processed by the brain to evaluate their threatening potential. Attentional, perceptual, and information-processing functions of the brain are thus invoked even before a state of stress involves the rest of the body's organs and systems. Selye describes stress as producing increased wear and tear due to prolonged maintenance of a state of heightened physiological readiness for action. The paranoid schizophrenic who is constantly scanning his environment for threats and plots, who looks for signs of his special mission everywhere, whose brain is attentionally and perceptually vigilant and continually processing incoming information to fit a delusional belief system, is bound to be stressing his brain. Therefore, the research on brain functioning in schizophrenia and in stress assumes a critical importance.

The EEG measures the activity of the cerebral cortex, the site of complex information processing and sensory integration. The EEG research with schizophrenics has produced an array of results due to differences in equipment, procedures, and diagnostic criteria. However, Itil (1977) reviewed the range of the previous 40 years of research along with his
own and concluded: "Patients with schizophrenia have more low voltage fast EEGs and less well organized alpha activity than those of control subjects" (p. 72). To interpret these results, Itil reviewed animal studies and studies of organic brain syndromes to find parallels:

...we have hypothesized a progressive dysfunction in the subcortical area of schizophrenics. Based on the computer-analyzed sleep EEG findings, we postulated the existence of a peculiar, over-alert behavior in schizophrenics (p. 74).

Goldstein, Sugarman, and Stolberg (1965) found that the mean amplitude of occipital EEGs of schizophrenics was higher, and their variability was only one half that of the controls. This state persisted over a period of weeks and the authors interpreted this as indicating a state of hyperarousal.

One of the major obstacles to general acceptance of the psychosomatic perspective for schizophrenia is lack of a direct link between alterations in brain functioning under stress and the specific deficits in schizophrenia. Therefore, these two findings indicating hyperarousal of the cortex are particularly significant in starting to establish the physiological links between stress states, the brain, and schizophrenia.

In addition to these EEG findings which are relevant to the brain's higher order functional involvement in the stress response, the brain's subcortical areas are also involved in the stress response. These more primitive parts of the brain relay the "stress message" throughout the body and are responsible for the physiological activation which occurs during a stress response. The autonomic nervous system and endocrine system are both regulated by subcortical brain structures. Usually when the stress response is discussed, people refer to physical responses generated by the sympathetic part of the autonomic nervous system, e.g.,
accelerated heart rate, perspiration, muscle tension. But due to feedback loops, the brain centers generating the arousal are also aroused. The hypothalamus seems to be the brain structure most involved in initiating and mediating sympathetic and endocrine activity. The hypothalamus is involved in feedback loops with the cerebral cortex and with the most critical subcortical areas as well, such as the pituitary which in turn controls the rest of the endocrine system. The exact neurophysiology of the stress response is currently the subject of intense research. The following is a recent summary of the state of understanding of "expectable neurobiological effects associated with coping with threat...":

1. Electrical events in the hypothalamus result which are accompanied by changes in binding, turnover, and inactivation of biogenic amines, norepinephrine, dopamine, and serotonin, as well as of acetylcholine.

2. Almost simultaneously with this hypothalamic effect, through various pathways, there may occur a reciprocal influence upon other brain regions...leading to transient or enduring alterations in visceral function or somatic behavior.

3. The raised level of hypothalamic reactivity is reflected in its increased electrophysiological and neurochemical activity resulting in short-term neuromolecular events, such as rapid RNA and protein turnover.

4. These may contribute to transient (phasic) discharges of hypothalamic releasing factors, or permanent (tonic) and highly specific hypothalamic activity...there may be alteration of a number of hypothalamic homeostats such as those controlling hunger, thirst, osmolality of plasma, sexual drive and direction, and sleep and wakefulness...

5. ...the various releasing factors affect pituitary secretions especially gonadotropins and adrenocorticotropin...It is known that adrenal cortical and gonadal steroids...alter significantly the electrophysiology and receptor site neurochemistry in the brain and particularly so in the hypothalamus (Kiely, 1975, pp. 215-216).

The above quotation was included to demonstrate the acceptance by neurophysiologists of the brain's critical involvement in the stress response. The same point has been made by Rahe and Arthur (1978) in
connection with life-change events research, but in more easily comprehensible language:

The brain, whatever its other higher integrative functions, is now seen as the major endocrine organ as well. It is in the brain that psychosocial events, impinging as they do upon the perceptual systems, are transduced into physiological events (p. 13).

Thus, the brain is not only responsible for initiating and maintaining stress reactions, it is also affected by stress. Since the research reviewed in the previous section indicates that the ANS of schizophrenics is hyperaroused, the parts of the brain mediating ANS responses must also be in a state of hyperarousal.

The available research suggests that schizophrenics show response stereotypy affecting their brains. Their EEGs show elevated levels of cortical activity, and the subcortical areas mediating the ANS system are also part of a hyperaroused response system.

In summary, research provides evidence that all three of Grings and Dawson's criteria for the development of a psychosomatic disorder are characteristic of schizophrenia: 1. psychosocial factors such as life-event changes and home environments influence the course of schizophrenia; 2. schizophrenics do not have effective means for modulating their arousal; 3. the brain functioning of schizophrenics shows stereotypically strong responses. Therefore, using this framework, schizophrenia can be considered as a psychosomatic disorder affecting the brain.

The Diathesis-Stress Model of Schizophrenia

Viewing schizophrenia as a psychosomatic disorder does not preclude genetic transmission of schizophrenia. Studies have consistently demon-
Strated higher concordance of schizophrenia between biological parents and children who were adopted into other homes at birth than between adoptive parents and children (Gottesman, 1978). The accumulation of adoption and other studies has led one respectable geneticist to utilize the seldom heard vocabulary of final scientific demonstration in summarizing the research in this area:

"...genes must be involved in determining who becomes schizophrenic and who does not. The adoption studies of Kety et al. and Heston provide the conclusive proof that some biologically transmitted genes increase the risk of an individual becoming schizophrenic. However, the adoption studies are not the only basis for reaching that conclusion. The data on familial clustering of schizophrenia have given impetus to genetic transmission hypotheses. In addition, the tremendous genetic variation among humans makes a genetic contribution to schizophrenia almost certain...Thus it is inconceivable that genes could not to some degree be involved in determining who becomes schizophrenic and who does not (Kidd, 1978, p. 70)."

Yet the other side of the genetic coin is that only 10% of schizophrenics have similarly affected parents, and the risk of a single schizophrenic parent producing a schizophrenic child is also only 10% (Kidd, 1978). The research on psychosocial influences in schizophrenia also argues against adoption of a genetic model that denies significant experiential influences. A second alternative is the life-experience model which denies any importance to genetic factors. This is also untenable in light of the accumulated research demonstrating genetic transmission.

The third alternative of the gene-environment relationship is the diathesis-stress model. In this perspective the diathesis (vulnerability) to schizophrenia is defined as "the individual's characteristic threshold beyond which stressful events produce decompensation manifest in the clinically diagnosable symptom picture" (Wynne, 1978, p. 703).
According to this model, each individual is genetically endowed with a specific degree of vulnerability that determines the ease and frequency with which suitable stressors will catapult him or her into an episode of schizophrenia. The highly vulnerable person is one for whom the demands of daily living are sufficient to elicit an episode. Others have such a low degree of vulnerability that only a catastrophic event would induce an episode, and even then, only a brief one.

Zubin (1976) has argued for this perspective:

...a threshold curve was drawn connecting the perceived stress of life events and vulnerability. As long as the degree of stress remains below the threshold, the person remains well; when the stress exceeds the threshold, an episode occurs (p. 30).

Figure 1 illustrates this model of relapse graphically. In the holistic program, schizophrenia is treated as a psychosomatic disorder which fits the diathesis-stress model of relapse.
Figure 1. The diathesis-stress model of relapse. (From Zubin and Spring, 1977, p. 110)
CHAPTER III

REVIEW OF THE LITERATURE ON HOLISTIC TREATMENT AND SOCIAL SKILLS TRAINING

Holistic Treatment

Status of Treatment

The psychosomatic model's emphasis on the role of psychosocial stress in the development of disease has greatly influenced current thinking about the nature of illness. The basic rationale for holistic treatments derives from research conducted within the psychosomatic paradigm. Yet, as Kenneth Pelletier (1977), a leading spokesman for the holistic approach has pointed out:

It is one matter to identify the psychosocial factors in illness, but quite another to formulate effective means by which these disorders can be alleviated or prevented altogether. Despite the extensive literature linking psychological and physical factors in disease, the methods of altering these influences remain virtually unexplored. Some recent innovations in holistic medicine are promising (p. 32).

Before delving into the holistic treatment approach and the design of the holistic program for schizophrenics, this section will look at the status of treatment within the psychosomatic movement itself.

The term "psychosomatic" was first used by Heinroth in 1818 to introduce the idea of internal conflict as a basis of mental disease. However, the first influential psychosomatic movement did not start until 100 years later in Germany and Austria when the influence of emotions on bodily functions became the subject of much controversy. Franz Alexander brought the German interest in psychosomatic medicine
to America where, in 1939, he initiated the first systematic collaborative psychoanalytical research in this area. A small but active group led by Flanders Dunbar subjected large numbers of patients with organic diseases to psychodynamically oriented examinations. The journal *Psychosomatic Medicine* came into being in 1939, followed shortly by the American Psychosomatic Society. One of the pioneers of the field, Eric Wittkower describes the atmosphere of the Society's early annual conventions: "One had the impression that a breakthrough in medicine had occurred. Diseases regarded previously as obscure of origin, we believed, had found an explanation and the prospects of treating them by psychotherapy appeared bright" (Wittkower, 1976, p. 6).

However, during the 1940's and 1950's, the focus turned away from clinical work to basic psychophysiological research. Internists practically abandoned the field, but psychologists increasingly entered psychosomatic research. The important breakthroughs occurred in the fields of neuroanatomy, neurophysiology, and neuroendocrinology elucidating the intricate relationships involved with visceral regulation.

The last 20 years have seen the continuation of basic psychophysiological research. Psychoanalytic concepts have lost their hold on the field. Instead, psychologists have been isolating and quantifying objectively measurable variables of personality and environmental factors. Research in the psychosomatic field is coming into a period of fruition where links are now being forged between personality (Type A and Type B), environment (life-change events), and the course of illnesses. However, psychosomatically oriented clinical practice has not yet partaken of the feast of exciting new findings and concepts.
Considering that the psychosomatic movement began 50 years ago as a reaction to "machine age medicine," it is surprising to find that it, too, has become part of the prevailing laboratory orientation. The original enthusiasm that illnesses could be treated with psychotherapy has largely disappeared. Wittkower writes of the current era, "Our assumption that psychosomatic disorders would easily be amenable to psychoanalysis and other forms of psychotherapy proved unwarranted" (Wittkower, 1976, p. 10).

A recent review of the status of psychosomatic medicine (Wittkower and Warnes, 1977) lists a variety of treatment interventions including: psychoanalysis, group psychotherapy, behavior therapy, hypnosis, autogenic therapy, biofeedback, and yoga. However, none of these techniques have emerged from the psychosomatic movement itself. Despite its theoretical and empirical vitality, the psychosomatic movement has not produced effective treatment techniques specifically for disorders fitting into the psychosomatic paradigm.

In just the past few years, a treatment approach which specifically aims to prevent stress-related illnesses has emerged from outside the psychosomatic ranks and outside the medical schools, universities, and laboratories. It has come to be called the holistic approach. The holistic movement can be characterized as ancient in terms of the origins of its treatment philosophy. Hippocrates expressed the essence of this philosophy when he stated that you cannot treat even a person's eyes without treating the whole person. But the first conference to utilize the term "holistic health" was sponsored by the Rockefeller Foundation recently in 1975, and the Association for Holistic Health
set up headquarters in San Diego only in 1976.

Yet, the term holistic has already become a staple in our media. It may even be in danger of becoming just another part of the recent trend in English toward "psychobabble." We have holistic medicine, holistic health, holistic psychology, holistic education, and holistic nutrition. There is considerable diversity of opinions concerning the definitions and parameters encompassed by the holistic movement. Some reserve the label for non-traditional healing techniques exclusively, such as acupuncture, iridology, massage, clairvoyant diagnosis, religion, and nutrition. Others incorporate the full range of healing techniques from radiation therapy and medication to visualization and exercise.

The acceptance of the holistic approach by professionals also runs the gamut. Max Parrot, a past A.M.A. President, claims that holistic medicine "gets into superstition, tribalism, mysticism--what we came out of 300 years ago" (Warren, 1978, p. 103). Yet Malcom Todd, also a past A.M.A. President, invites holistic treatment in assisting the individual "in all his levels of being: body, mind, and spirit" (Warren, 1978, p. 103). Some see the holistic approach as integrating traditional medical practices with techniques which emphasize the patient's responsibility for self-care and self-healing. Others view the holistic model as an alternative to the traditional medical model.

**Principles of Holistic Treatment**

Dennis Warren, an attorney who was a former California prosecutor for the Department of Health, has been concerned with the holistic
health movement's development from the perspective of ethics and law. He characterizes the current holistic movement as follows:

In reality, the holistic approach is in its embryonic stage. There is no accepted consensus as to the scope of holistic practices, the role of the layman and the philosophy's long term role in medicine and society. There are no objective standards or guidelines for treatments. There is only a general philosophy of approach to health care (Warren, 1978, p. 105).

The general philosophy of approach to health care which Warren sees as the unifying force behind the holistic movement was the subject of a recent book by Kenneth Pelletier (1977). He identified three unique aspects of the holistic approach for preventing stress disorders. The first was that: "They teach people to exercise control over their autonomic or involuntary physiological functions" (p. 26). Techniques such as meditation and aerobic exercise have proved effective in enabling people to exercise control over their autonomic nervous system and reduce the physiological signs of stress. The relevant research will be summarized in the upcoming sections on relaxation and exercise. The holistic approach also includes techniques to sensitize patients to the language of their bodies so that they can monitor and recognize stress warning signs. These signs then become cues to engage in some stress-reduction activity to lower the level of physiological arousal.

The second unique aspect of the holistic approach that Pelletier (1977) indicated was that: "Each person should learn to identify the major stressors in his or her life" (p. 35). The holistic practitioner works with patients to help them sort out the psychosocial, environmental, and
personal sources which generate excessive stress in their lives. Precipitants to previous illness episodes are explored. Once this stage of awareness is reached, the task of developing and testing strategies to avoid relapse-related stressors begins. A fundamental reorientation of lifestyle may be required in order to avoid contact with known stressors which have become habitual.

The modification of lifestyle also involves developing healthy everyday living habits which increase a person's tolerance for stress. Breslow (1972) found that the habits of getting seven or eight hours of sleep, moderate drinking, no smoking, regular exercise, normal weight, regular meals, and eating breakfast daily affect the overall health and longevity of people. People with all seven of these habits are healthier than those with six. Those with six are healthier than those with five, and so on. For example, the risk of heart disease for an overweight man who smokes is five times that of a nonsmoker who carries few excess pounds. A 45 year old man with three or less of these habits has an average life expectancy of 21 additional years. However, if he has six or seven of these habits, his life expectancy is increased to 33 additional years.

Pelletier's third unique aspect of the holistic approach was that the patient "is an active and responsible participant in the process of self-healing, he is no longer the passive victim of a disease or the passive recipient of a cure" (p. 33). Probably the most unique aspect of the holistic approach is its insistence that individuals have both the responsibility and the ability to influence the course of their ill-
ness toward health. The patient is expected to become an expert on his own illness and the factors which affect his recovery and his relapses. In addition to techniques to manage stress, the holistic approach also focuses on the patient's expectations about his recovery. Feelings of helplessness and hopelessness interfere with the patient's ability to initiate actions to disrupt the downward spiral of psychosomatic disorders. Holistic practitioners believe that negative expectations directly affect physiological functioning:

Where the mind tends to focus, the emotions and the physiology are likely to follow. Despite the fact that the link between visualization and neurophysiological alterations remains enigma, there is increasing evidence that subtle mental phenomena can have a profound positive or negative impact upon an individual's entire psychophysiology (Pelletier, 1977, p. 261).

Therefore, visualization, art therapy, and cognitive restructuring techniques are utilized to mobilize their motivation to combat their disease and increase their positive expectations of recovery.

Applicability of Pelletier's Principles to Schizophrenia

The importance of such stress-reduction techniques for schizophrenia should be apparent. Schizophrenic relapse has been directly linked to stressful events such as business recessions, family criticism and intrusiveness, and life-change events, many of which are outside patients' control. Therefore, if vulnerable people intend to keep their stress level beneath their threshold for schizophrenic relapse when exposed to such life-event stressors, they will need to be able to exercise immediate control over their own autonomic nervous system. They would need to engage in some activity such as exercise or relaxation which would directly lower their stress level when exposed to such stressors.
Schizophrenics are already in a heightened state of ANS arousal which renders them especially vulnerable to increases in stress level surpassing their threshold of stress tolerance. Holistic techniques seem to have long range ANS dampening effects as well as short term stress-reduction effects. In this sense, a schizophrenic could achieve many of the benefits of medication by deactivating his ANS through the regular practice of holistic techniques such as exercise and relaxation.

The potential benefits of holistic techniques for schizophrenics seem clear. Yet, an NIMH Technical Information computer search of the research literature did not turn up a single reference on holistic or stress management programs for schizophrenics. Some stress-reduction techniques such as exercise and meditation have been used with schizophrenics, but as isolated techniques rather than as part of an integrated stress-management program. To the best of this author's knowledge, the holistic program designed and conducted during this research project is the first program for schizophrenics based upon a stress-reduction rationale.

It can be argued that all of the many varieties of psychotherapy have the effect of helping people to live with less stress in their relationships. However this is a by-product; psychotherapy does not explicitly train people in stress-reduction techniques. Nor are patients taught to monitor their stress level or look at all of their stress-creating behaviors. Schizophrenics are usually treated at hospitals which temporarily remove them from their stressful environment and lower other stress-arousing demands for performance, and they are given stress-reducing major tranquilizers. But while they are recuperating, the hospital does not train the patients to manage stress.
in their lives.

A Model Holistic Program

Since there were no prior references on holistic programs for schizophrenics, holistic treatments for other illnesses were used as models. Holistic programs have been developed for a variety of other health problems including diabetes, cardiovascular disorders, hypertension, arthritis, asthma, and cancer. The best known and most accepted program currently in operation is the one developed by Carl Simonton and Stephanie Mathew-Simonton (1978) for cancer patients. Patients in their program have doubled their longevity compared to accepted actuarial expectations, and the percentage of patients whose cancer entirely goes into remission is also very high. These patients self-select into the program so these statistics are difficult to assess, but they demonstrate promise for their approach.

Simonton is an oncologist who became interested in the characteristics of cancer patients who recover and whose cure is labeled by the medical community as "spontaneous remissions." After extensive interviews with such patients, he found that what differentiates the remitters from the non-remitters is their belief that they influence the course of their illness in both positive and negative directions. In contrast, the non-remitters typically felt helpless and hopeless in the face of "inevitable deterioration and death."

Utilizing this information, the Simontons decided to design a treatment program that would mobilize patients positive beliefs concerning their recovery. The Simontons developed a visualization technique
during which patients imagine their white blood cells overpowering their cancer cells and the affected tissues healing. The visualization technique mobilizes patients' expectations concerning their recovery and their motivation to actively change their lifestyles.

The second major component of the Simonton's program includes techniques to enable patients to manage their lifestyle to regulate and reduce stress. The Simontons prescribe three relaxation sessions each day and regular exercise as part of their program. They help their patients review the carcinogenic aspects of their living patterns and then modify their lifestyle to reduce their exposure to stressors and alter any interpersonal and emotional habits which generate excessive stress.

The Simontons' program has been used as the model for the design of the holistic program for schizophrenics. It has been built on the same two pillars of treatment: stress management and mobilization of positive beliefs. Many changes did need to be made in order to adapt these basic holistic foci of treatment to the nature of schizophrenia. The operationalization of the holistic stress management program is presented in detail in the Procedures section.

Rationale for Incorporating Exercise and Relaxation Techniques

The holistic stress-management program includes daily training in the stress-reduction strategies of exercise and relaxation. Both types of approaches are seen as necessary because stress can affect the somatic and cognitive systems differently depending on the specific stressor and the individual's idiosyncratic response specificity. A
variety of recent evidence has challenged the long held assumption of the undifferentiated nature of general arousal that was hypothesized to underlie such states as anxiety (which is a stress state). For example, psychophysiological fractionation and specificity have been found in studies by Lang (1969) and Hodgson and Rachman (1974) on fear reduction. Elliott (1964) found that intraindividual correlations between central and autonomic measures recorded across a wide variety of behavioral tasks were consistently below .16. The existence of different dimensions of anxiety has also been established psychometrically through factor-analyzing the items in commonly used anxiety questionnaires. Hamilton (1954) and Buss (1962) found that two factors, which they labeled psychic and somatic anxiety, accounted for the major portion of the variance in test performance among psychiatric patients. Davidson, Davison, and Freedland (1977) found that: "cognitive and somatic anxiety could be reliably distinguished on the basis of the patterning of cardiovascular, electrodermal, and electromyographic measures."

The somatic and cognitive dimensions represent the most basic split of the psychobiological subcomponents involved in stress and its reduction. Given these findings, Schwartz, Davidson, and Goleman (1978) investigated the hypothesis that "different procedures utilized in the reduction of anxiety differ in the degree to which they affect the cognitive versus somatic system" (p. 323). They developed a dual component scale which separately assesses cognitive and somatic anxiety, and then applied it to the study of the differential effects of a somatic (physical exercise) and a cognitive (meditation) procedure. Forty-four
regular exercisers and 33 regular meditators were tested. Meditators reported less cognitive and more somatic anxiety than exercisers. There was no main effect for group indicating that the two groups did not differ in overall anxiety, but rather on the specific patterning of anxiety subsystems.

In their study, Schwartz, Davidson, and Goleman (1978) compared two groups of subjects randomly assigned to a cognitive intervention (rationale-emotive self-statements) and somatic intervention (progressive muscle relaxation). They found significant differences on measures of somatic activation (heart rate and EMG) and cognitive activation (skin resistance) when the subjects were exposed to slides of anxiety eliciting situations.

These findings confirm that therapeutic interventions result in significant changes primarily in the biobehavioral systems which they engage. The data specifically suggest that particular therapeutic regimes are maximally effective in attenuating different types of anxiety (p. 434).

Since individuals vary in the biobehavioral systems in which they experience anxiety, and the response aroused in an individual across different situations may vary, a thorough approach to stress management should include training in techniques which affect both the somatic and cognitive systems.

Research On Relaxation

Many forms of relaxation have demonstrated their utility in reducing stress. Progressive relaxation (Shoemaker and Tasto, 1974), yoga (Patel, 1975), and autogenic training (Klumbies and Eberhardt, 1966) have been used successfully in the treatment of hypertension.
It seems any relaxation activity practiced regularly has stress-reduction benefits.

However, one prime determinant of the clinical utility of a technique is its compliance record. A technique which demonstrates its effectiveness in the laboratory but does not gain compliance among patients, fails to be an effective clinical tool. Meditation has shown comparatively high rates of compliance. In a 3-year study conducted at the Hartford Institute of Living (Glueck and Stroebel, 1975) comparing biofeedback, progressive muscle relaxation, and meditation, most patients in the biofeedback and progressive relaxation groups dropped out. Almost all the patients assigned to the meditation group continued to meditate. In a follow-up survey, 68% of the patients reported that they were still meditating and obtaining good results from the practice.

During the in-hospital phase of this study, it was found that the meditators improved significantly more than all the other hospital patients discharged that year and more than a group of matched controls on global ratings of improvement, amount of psychotropic and sedative medication used, and level of pathology on the MMPI. This study shows that meditation can be used effectively with some schizophrenic patients.

Of all the relaxation techniques, meditation has been researched the most extensively with over 400 published studies. Meditation has consistently been shown to reduce the physiological signs of arousal which accompany stress. Its physiological effects constitute a configuration opposite to that of the hyperarousal reaction identified by Cannon (1932) as the "flight or fight" response. Meditation reduces heart rate, decreases oxygen consumption, decreases blood pres-
sure, increases skin resistance, increases regularity and amplitude of alpha activity. Meditation has been described as a hypometabolic state which can be self-induced (Allison, 1970; Benson, Beary, and Carol, 1974; Wallace, 1970; Wallace, Benson, and Wilson, 1971).

Goldman and Schwartz (1976) evaluated the effects of meditation on reactivity to a complex emotional stressor. Thirty meditators and 30 non-meditators were exposed to a standard laboratory stressor consisting of a short film depicting a series of bloody accidents among workers in a wood-working shop. One-half the subjects in each group were instructed to relax for 20 minutes prior to viewing the film. The other half were told to meditate. The novice meditators were taught to meditate right in the lab to control for the usual confounding factor in meditation research of subject self-selection. After the film, the meditators showed faster recovery. Their signs of bodily arousal as assessed by phasic skin conductance and heart rate fell more quickly than those of the non-meditators. Even the novices, who meditated for the first time that day in the lab, recovered more quickly than the non-meditators who relaxed.

Meditation has been successful in reducing self-reports of anxiety in several pretest—posttest questionnaire studies utilizing the Spielberg Trait/State Anxiety Scale (Davidson, Goleman, and Schwartz, 1976; Goleman and Schwartz, 1976), the IPAT Anxiety Questionnaire (Ferguson and Gowan, 1977), and the Bendig Anxiety Scale (Hjelle, 1974).

There is some evidence that the regular practice of meditation can enable a person to withstand more life changes with less illness.
Lahr (1976) compared beginning and experienced meditators with non-meditators and found the meditators had experienced more life changes than non-meditators but had less illness. Self-selection of meditators is a confounding factor in this study, however.

The most conclusive evidence for the long-term benefits of meditation with a stress-related illness comes from the research on its use with hypertension. Definable pathology is found in less than 10% of reported cases (Frumkin, Nathan, Prout, and Cohen, 1978). Most investigators view hypertension as a psychosomatic disorder involving cognitively-mediated, prolonged sympathetic arousal. Benson conducted four studies on the use of meditation in the treatment of hypertension (Beary and Benson, 1974; Benson, Beary, and Carol, 1974; Benson, Rosner, Marzetta, and Klemchuk, 1974a, 1974b). Both systolic and diastolic pressures declined significantly in meditating hypertensive subjects over follow-up periods ranging from 9-63 weeks. These reduced blood pressures occurred during nonmeditation times of the day. Although these studies did not have a control group, there were relatively long baseline periods of stable blood pressure measures before meditation training, and the blood pressure of nine subjects who stopped meditating returned to pre-meditation levels.

Research on Exercise

Whereas the best documented research on the clinical usefulness of meditation for the treatment of a stress-related illness has been conducted on hypertension, the research on exercise has focused on cardiovascular disorders. The cardiovascular system is intrinsically involved
in any stress response. It is the first system to be mobilized by the CNS in response to a stressor. The cardiovascular system supplies the musculoskeletal system with the metabolic requirements for motoric action in the "fight or flight" response. However, few modern-day stressors can be resolved through physical action involving fighting or fleeing. In an article entitled "Aerobic exercise as a therapeutic modality in the relief of stress," Eliot, Forker, and Robertson (1976) state:

Neurogenically mediated changes in blood chemistry and myocardial metabolism are thus prolonged, and the cardiovascular system is maintained in extended, unresolved, and potentially harmful periods of readiness. In the absence of augmented vasodilation subsequent to muscular exercise, the state of cardiovascular preparedness is not discharged. Thus the heart and vascular system are subjected to work loads far in excess of that expected during aerobic exercise (p. 233).

Many of the physiological effects produced by exercise conditioning are the opposite of the changes that occur during stress. As the result of long term exercise, blood catecholamines decrease, cholesterol decreases, blood pressure decreases, heart rate reduces (Eliot, Forker, and Robertson, 1976; Ismail and Young, 1977). Exercise also has quieting effects on the sympathetic nervous system which mediates the stress response: "Exercise conditioning inhibits sympathetic tone and excitability...The effect is an exercise bradycardia mediated through the autonomic nervous system" (Eliot, Forker, and Robertson, 1976, p. 237).

Many epidemiological studies have shown a strong relationship between physical fitness and cardiovascular disorders. However, epidemiological studies are always complicated by self-selection effects. Birrell and Roscoe (1978) tested the effects of aerobic exercise on stress
reactivity and the development of cardiovascular disorders in rats. With the regulation possible in a laboratory experiment, they were able to control for this complicating factor as well as weight differences due to exercise. They found that aerobic conditioning provided protection against cardiovascular damage due to exposure to extreme stressors.

Hospitalized patients have been found to possess low levels of physical fitness and would therefore seem more vulnerable to the effects of stressors (Morgan, 1969). The physiological pathway between the stress responses and schizophrenic symptoms has yet to be delineated. But a technique which provides protection against the effects of stress on one physiological system most likely has prosthetic benefits for other systems which are also affected by stress.

In addition to its physiological benefits, exercise is also an activity. Gal and Lazarus (1975) have reviewed the role of activity in anticipating and confronting real life stressors, such as combat, and laboratory stressors, such as unpredictable electric shock:

It seems quite evident that activity during stressful periods plays a significant role in regulating emotional states. We are inclined to interpret activity as being a principal factor in coping with stress...A person may alter his/her psychological and physiological reactions in a given situation simply by taking action (p. 18).

While the authors did not evaluate aerobic exercise explicitly, their definition of activity is "overt, motoric action" taken by the individual while he is anticipating or confronting a stressor. They compared threat-related and non-threat related activity, and found "many cases where activity is in no way related to the impending harm yet is still anxiety
reducing" (p. 15). They discuss two possible explanations: (1) that activity diverts the person's attention from the stress cues; (2) that activity allows for dissipation of bodily mobilization or arousal. In view of the previously cited research on its physiological effects, aerobic exercise would qualify as an effective activity on both accounts.

Research on the usefulness of exercise for the treatment of psychiatric illnesses is just beginning. John Griest (1978) at the University of Wisconsin used 10 weeks of running therapy as the treatment for eight depressed outpatients. It was as successful in relieving symptoms as traditional psychotherapy in the randomly assigned comparison group. Thaddeus Kostrubala (1976) has reported successful cases using running therapy with depressed and schizophrenic patients. Thus, the limited research in this area provides some evidence that exercise would be a valuable therapeutic modality in the treatment of schizophrenia.

**Social Skills Training**

**Schizophrenia and Social Skills Deficits**

In the past 10 years, social skills training has become one of the most accepted and prevalent interventions for schizophrenia. A major article in *Schizophrenia Bulletin* (Wallace, Nelson, Liberman, Aitchison, Lukoff, Elder, and Ferris, in press) reviews over 70 studies in this area. NIMH and other agencies are actively funding research projects on social skills training including the one at the UCLA-NPI Clinical Research Unit discussed in this thesis. Deficiencies
in the social functioning of schizophrenics has been a finding in a number of studies (Phillips and Zigler, 1964; Zigler and Phillips, 1962). For example, Zigler and his colleagues have reported correlations between social inadequacy and schizophrenia in several studies ranging over the past 18 years. Their major finding can be summarized as indicating that the better a person's level of social competence prior to being hospitalized, the more likely his/her ability to succeed in terms of post-hospital adjustment. Phillips and Zigler (1964) examined the case histories of 25 first admission patients admitted to Worcester State Hospital between 1945 and 1954. A social competence score was constructed in terms of the individual's age, intelligence, education, occupation, employment history, and marital status. Symptoms indicating "avoidance of others," e.g., withdrawal, suspicion, depersonalization, were assessed from descriptions of the patient's behavior by a psychiatrist utilizing case records. The authors reported that:

an avoidance of others role expresses an inadequate social response. This role is characterized by a state of withdrawal and isolation in which the person is neither concerned with societal demands nor feels compelled to cope with such demands. It would appear to be this withdrawal from society and turning inward which makes for poorer prognosis (p. 388).

Strauss and Carpenter (1974) also investigated the relationship between premorbid frequency of social relations and outcome by using a prospective design with 84 schizophrenics. During their hospitalization, they administered a 14-item prognostic scale, and then they conducted a follow-up five years later. They found that: "...duration of hospitalization, poor social relations, and unemployment are the variables with a highly significant impact on outcome prediction" (p. 41). The actual correlation between poor social relations, measured in terms of
frequency of social contacts, and poor outcome was .36.

Cohen and Sokolovsky (1978) compared the social networks of schizophrenic and nonpsychotic residents in a single room occupancy hotel in New York City, a typical community placement for released psychiatric patients. Smaller networks were reported for the ex-patients than for the nonpsychotic residents. The study also found an inverse relationship between network size and the likelihood of return to the hospital. Schizophrenic individuals seem to have more limited networks of social connections than nonpsychotic individuals, and the more limited, the worse is their prognosis for tenure in the community.

These studies suggest that if schizophrenics could have their social skills buttressed by an effective therapy procedure, they might be able to make a better adjustment to community living and thereby forestall rehospitalizations.

Social Skills Training with Schizophrenics

The hallmark of the behavioral approach is the emphasis on a one-to-one relationship between diagnosis and treatment. Social skills training conducted from the behavioral perspective utilizes direct rehearsal of the social skills assessed and found to be deficient. Although some interventions have been focused on discrete behaviors such as eye contact and positive statements (Liberman, Teigen, Patterson, and Baker, 1973), the clinical outcome of such a narrow focus is quite limited. Research in the field has generally shifted toward evaluating the effects of comprehensive treatment packages aimed at improving many behavioral dimensions of the patient's social functioning. These
programs employ an amalgam of techniques including roleplaying, modeling, prompting, instructions, feedback, reinforcement, self-monitoring, self-instructions, and homework assignments.

Goldsmith and McFall (1975) developed and evaluated one such social skills training program for 36 male patients on the psychiatric ward at Chicago's West Side V.A. Hospital. They defined their approach as follows:

Social Skill training is a general therapy approach aimed at increasing performance competence in critical life situations. In contrast to therapies aimed primarily at the elimination of maladaptive behaviors, skill training emphasizes the positive, educational aspects of treatment. It assumes that each individual always does the best he can, given his physical limitations and unique learning history, to respond as effectively as possible in every situation. Thus, when an individual's "best effort" behavior is judged to be maladaptive, this indicates the presence of a situation-specific skill deficit in that individual's repertoire (Mager and Pipe, 1970). Whatever the origins of this deficit (e.g., lack of experience, faulty learning, biological dysfunction) it often may be overcome or partially compensated for through appropriate training in more skillful response alternatives. Presumably, once these new skills have been acquired and reinforced, they will displace any competing, less reinforcing maladaptive behaviors (p. 51).

They developed 55 problematic situations from interviews and questionnaires conducted with outpatients. Then eight staff members at the Illinois State Psychiatric Institute were presented with these situations and asked to roleplay them thereby generating response options for each item. Additional staff members evaluated the competence of these response alternatives. Patients were given the list of situations to determine which situations were problematic for them, and 25 were selected for training. Thirty-six male inpatients were randomly divided into three groups. One group was given three one-hour training sessions covering the selected situations, such as initiating and termi-
nating conversations, dealing with rejection, being assertive, and self-disclosing. They listened to effective responses to each situation and were coached about the principles of effective behavior in that situation. Then the patient roleplayed the situation, and his response was played back. He evaluated his response and then the experimenter provided corrective feedback. The rehearsal was repeated until both the subject and experimenter agreed that it met the criteria for effective behavior two consecutive times.

Patients in the pseudotherapy control condition also participated in three one-hour sessions where they listened to the tapes of the problem situations. However, the subject was encouraged to explore his feelings about it and seek insight into the reasons for his feelings. No specific behavioral solutions were suggested or rehearsed.

A third group of 12 patients only received the pretest and post-test. All thirty-six patients were administered the Interpersonal Behavior Roleplaying Test, a simulated real life test using a confederate, and a Global Self-Perception Questionnaire. The social skills training group reported significantly greater \((p < .05)\) improvement in self-ratings of difficulty in meeting strangers and feelings of self-worth. The patient's roleplaying performance was taped and blindly rated by two raters. Comparisons indicated that the social skills training group improved more than either of the two control groups. In the simulated real life behavior test, the confederate (rating blindly) perceived the social skills patients as more skillful than the control patients \((p < .05)\).

Herson, Bellack, Eisler, and colleagues have conducted a series of 12 studies on social skills training with psychiatric patients. All
have shown that social skills training improves the behaviors targeted during training: number of seconds of eye contact, speech duration, assertive requests for behavior change, appropriate affect, speech initiations, latency of response, loudness (Bellack, Herson, and Turner, 1976; Edelstein and Eisler, 1977; Eisler, Blanchard, Pitts, and Williams, 1978; Eisler, Herson, and Miller, 1973; Hersen and Bellack, 1976).

Finch and Wallace (1977) matched 16 patients on the basis of age, length of hospitalization, and pre-treatment level of social skills. Subjects were randomly assigned within matched pairs to either a social skills training group or a milieu therapy group. Social skills training consisted of 12 one-hour role playing sessions focusing on eye contact, speech latency, content, affect, loudness, and fluency. Patients were also given assignments to complete outside the sessions.

At the end of 12 weeks, both groups were reassessed on roleplayed scenes and the Wolpe-Lazarus Assertive Questionnaire, a self-report measure. The social skills training group significantly exceeded the milieu group on all behavioral measures: loudness, fluency, affect, latency, content, and eye contact. Self-reported assertiveness also improved more for the social skills training group.

Over 15 studies have been reported on the effectiveness of social skills packages with psychiatric patients (Wallace et al., in press). These studies have clearly demonstrated that roleplaying and other behavioral techniques can alter patients' behavioral performance during subsequent roleplays and even in simulated real life situations with confederates on such variables as eye contact, fluency, speech duration, appropriate affect, loudness, and emission of assertive responses.
However, no studies to date have assessed the impact of social skills training on relapse or length of community tenure.
CHAPTER IV

METHODS

Subjects

At the time these intensive case studies were initiated, 10 subjects had finished the treatment programs: five in the holistic group and five in the social skills training group. The criterion for designating the least successful subject from each of the two programs was based on the elapsed time between the end of the program and rehospitalization. The patient within each program who spent the least time living the community was selected as the subject for an intensive case study.

The criteria for most successful subject were not as easy to determine. Most patients have not had to be rehospitalized, so length of community tenure could not be used as the sole criterion. The objective pre-post and follow-up data on psychopathology such as the Brief Psychiatric Rating Scale and the Symptom Checklist-90 did not seem to capture the most salient dimension of "success," and also did not discriminate among the potential candidates.

In the weekly team meetings, the staff often discussed the status and events of discharged patients. Social adjustment in the community seemed to be the most important dimension in the spontaneous determinations of who was "doing well" and who was not. Social adjustment includes the ability to maintain relationships with parents, peers, and social agencies, and the development of vocational direction.

To select the most successful subject, a consensual process
was utilized. The question of who has been the most successful subject in each program was decided at a weekly meeting. Two other psychologists who were therapists in the treatment program and the aftercare social worker who has ongoing contact with all subjects after the end of the program and the author were involved. The choice of the most successful from the four possible subjects (five subjects in each group less the easily determined least successful subject) was not a difficult or time consuming determination. One patient in each group stood out as having made the best social adjustment relative to the others, and it only took a couple of minutes to arrive at agreement within the treatment team.

All 10 patients were selected to participate in the treatment study in accordance with the following criteria:

**Inclusion (Must meet all)**

1. Present State Exam positive for schizophrenia within the last month
2. Male
3. Caucasian
4. Between ages of 17 - 50
5. Symptomatic or behavioral exacerbation within 6 months of current admission
6. Inpatient in a psychiatric facility at time of screening
7. Onset of illness before age 40

**Exclusion (any one sufficient for disqualification)**

1. Continuous, severe, psychotic symptoms for one year or longer at time of screening
2. Hospitalized more than one year consecutively of past 5 years
3. Organic syndrome which would interfere with cognitive processing
A psychiatrist and psychologist were employed full-time by the grant to screen and select schizophrenic patients for the research project. Patients for the study were drawn from three hospitals: Camarillo State Hospital, Ventura Mental Health Clinic, and UCLA Neuropsychiatric Institute. The majority of patients came from Camarillo State Hospital which has between 80 - 100 admissions per week to its eight acute adult admission units. All units were screened for potential candidates usually on a twice weekly basis. New patients whose charts indicated that they met the above criteria were approached for an interview. If they were willing to be interviewed and sign the Informed Consent agreement, the Present State Exam diagnostic interview was administered. If a patient was found to be positive for a diagnosis of schizophrenia, permission was requested from the patient to contact his relatives to gather supplementary data. If the relatives met some additional research criteria and they were willing to participate in family therapy, the patient was given a tour of the Research Unit. Participation in the treatment research program was voluntary. The Informed Consent Form for participating in the research project was explained and the patient was offered a place in the program.

The Present State Exam (PSE), a mental status interview schedule now in its ninth edition, was used to obtain a reliable diagnosis. Professor John Wing (1967) at the Institute of Psychiatry, London University, developed the PSE to reliably rate as present or absent a number of symptoms thought to be characteristic of schizophrenia. It has been used in several major research programs including the World Health Organization International Pilot Study of
Schizophrenia and the UK-US Diagnostic Project. The upcoming DSM III has been heavily influenced by the basic design and procedures of the PSE.

Luria and Mc Hugh (1974) found an interrater reliability of .90 between four raters for the phenomenological symptoms. However, the four symptoms based on observed behavior had lower reliabilities such as .44 for catatonic movements. The reliability of diagnosis is also very high. Wing (1967) reported inter-observer reliability of 84% for assignment into 11 different diagnostic groups. When utilized solely to discriminate schizophrenics from non-schizophrenics, the reliability rises to over .90.

All PSE interviewers on this research project were trained by Ian Faloon, M.D., who learned the technique while at the Maudsley Hospital in London. Monthly reliability ratings were conducted and reliability averaged above .80 between Dr. Faloon and the psychiatrist and psychologist who conducted the diagnostic interviews.

Cohorts of six patients were selected every 12 weeks starting from April, 1978. The fifth and final cohort finished treatment in July, 1979. Despite the inducement of three dollars per day for participation, two patients dropped out of the first group, leaving only four in the first treatment group. Patients from the first two cohorts are considered in this research thesis, five who completed the holistic program and five who finished the social skills training program.
**Procedures**

Once the six patients are admitted to the Clinical Research Unit at Camarillo State Hospital, three are randomly assigned to the holistic program and three to the social skills training program. The first week is a baseline period and dependent measures are administered. For the remaining nine weeks, patients participate in over 25 hours per week of therapy. The treatments have been designed to control for amount of time spent in therapy by scheduling all sessions concurrently. To control for therapist personality effects, all six therapists rotate on a daily basis between both treatments. Therapists have been trained in both procedures and are monitored on a random basis via a remote video camera to assure reliability. Two therapists participate in each of the daytime sessions, while the evening sessions are led by a single therapist.

**Social Skills Training Procedures.** The training is based on 250 roleplayed interpersonal problem situations which are critical for effective functioning in the social arenas of the hospital, the family, and the community. The hospital and community scenes have been standardized and include areas such as interacting with other patients, with nursing staff, with apartment managers, with human service agency officials, and with board and care staff. The family scenes have been individualized for each patient based on the patient's report of problematic situations and an interview conducted with the patient's relatives.

The roleplaying sessions are held daily for two hours and include a standardized set of techniques designed to train the patient to:

1) **Receive** relevant interpersonal stimuli accurately.

2) **Process** these interpersonal stimuli, generate response
alternatives and decide on a reasonable course of action.

3) **Send** the chosen response using appropriate verbal and nonverbal expressiveness.

The training format utilizes the following series of questions administered following each roleplay:

**Receive:**

- a) Who spoke to you?
- b) What did _______ say?
- c) What was _______ feeling?
- d) What was the short term goal?
- e) What was the long term goal?

**Process:**

- a) Name 1 alternative you could do when _______ said _______?
- b) If you were to _______, what would the other feel?
- c) What could the other do?
- d) Would you get your short term goal?
- e) Would you get your long term goal?
- f) Would you use that alternative?

**Send?**

- a) How was your eye contact?
- b) How was your voice volume?
- c) How was your fluency?
- d) How was your tone?
- e) How was your posture?
- f) How was your facial expression?
- g) How were your gestures?

An incorrect answer results in a training procedure designed to highlight the relevant cue and thereby elicit the correct answer.

A set of 14 behavioral alternatives or response options has been developed that appears to fit most of the scenes:

Compromise
Terminate rudely
Terminate politely
Get angry
Repeat your request
Ask for assistance
Highlight the importance of your need
Comply with the other's request
Refuse to comply with the other's request
Explain your position
Ask for more information
Come back later (ask for appointment)
Acknowledge the other's position and...(use one of the above)

The patient is taught to use these interpersonal strategies to generate concrete responses in each roleplayed situation. Each daily session covers six scenes. Since three patients are in the social skills training group, each gets to roleplay two scenes. However, the receiving and processing questions are divided up among all three patients thereby ensuring active participation by all patients even when they are not roleplaying.

Two therapists conduct each session. One therapist acts out the roleplay with the patient. The other therapist introduces the situation by reading a script which gives the patient the setting and usually his initiating line. The roleplay may terminate at the end of a single response by the patient or continue for up to five minutes depending upon the nature of the scene. At the end of the roleplay, the videotape recorder is stopped and the patients are asked the questions designed to assess and train their receiving, processing, and sending skills. Specific procedures are followed when the patient gives an incorrect answer. Generally the relevant stimulus is highlighted and the question is reasked. After two incorrect answers, the correct answer is provided and the patient is asked to repeat it.

During the last five weeks of the program, the emphasis switches from instrumental or goal-focused scenes to friendship and dating situations. Training in skills is gradually introduced including:
Initiating a conversation
Identifying topic areas
Verbal and nonverbal listening skills
Self-disclosure
Changing the topic
Terminating a conversation

Behavioral techniques such as instructions, modeling, roleplaying, feedback, reinforcement, and discrimination exercises are employed to teach these skills. As with the instrumental scenes, each session is planned in advance and identical from program to program.

During the Monday, Tuesday, and Thursday generalization sessions, scenes from the morning session are roleplayed in a different setting (on the unit instead of the research lab), with a different person (a member of the nursing staff), and then with a different response from the one practiced in the morning session.

A further strategy to promote generalization of training consists of homework assignments. Each day the social skills patients are asked to choose two tasks from a list of 40 covering hospital, community, family, and friendship situations. Trips into the surrounding community are scheduled for Monday and Wednesday afternoons to permit the patients to carry out the community homework.

One evening a week is devoted to training independent living skills. The areas covered during these sessions include grooming, use of telephones, community agencies, cooking, job interviews, transportation, laundromats, medicaid, budgeting, and money management.

A second weekly evening session is devoted to training in the cognitive areas of anger and stress control, assertive behavior, and long-term problem solving. During the anger and stress control
component, the patient learns to employ coping self-talk during stress-
ful and anger provoking situations. While being videotaped, the patient
recreates interpersonal situations that previously aroused anger and
frustration. Then, while watching a playback of himself with the
audio turned off, he rehearses coping self-talk out-loud. When he
can sustain the coping self-talk out-loud, the tape is replayed and
he rehearses coping self-talk covertly. Then the situation is again
rehearsed "live" and the patient practices coping self-talk while
experiencing the stress or provocation directly.

The patient also learns to discriminate among passive, asser-
tive, and aggressive behaviors by determining whether a particular
action violates or protects his own and the other person's rights.
He learns to use problem-solving techniques in situations that call for
more complex alternatives than the 14 covered during the social skills
training sessions, such as what to do about loneliness, or how to
plan for a long term goal such as a career or marriage.

Aftercare planning is the focus of the Wednesday afternoon
sessions. The social worker starts meeting with the patients in
the first week of the program. The sessions are organized around
the various phases of life in the community: income, living arrange-
ments, use of time, continued psychiatric treatment, education,
vocational training, and employment. Individual plans are drawn
up in each of these areas.

Family therapy takes place on Wednesday evenings. The patients
and their relatives meet in a multiple family group. The first
session covers the causes and treatment of schizophrenia. The next
two meetings are devoted to problem identification, goal setting, and medication benefits and side effects. Subsequent sessions focus on building communication skills such as making positive statements, giving positive feedback to other family members, and reflective listening skills. Several sessions cover problem-solving skills utilizing a variety of hypothetical and then actual problems in the families.

It should be noted that the content and training techniques for all of the above sessions have been worked out in advance. The therapist removes the materials for the session from a Pendaflex file or consults the relevant manual. Thus patients starting the program at different times receive essentially the same treatment.

Table 1 presents the schedule of sessions and their time slots.

**Holistic Stress Management Procedures.** The holistic program is based on the rationale that schizophrenic relapse is stress-related and controllable. Every weekday morning the patients participate in two hours of training in the stress-reduction techniques of aerobic exercise and relaxation.

On Monday, Wednesday, and Friday mornings the patients traverse a 1.8 mile route around the grounds of Camarillo State Hospital. At first the pace is a brisk walk. As their endurance builds, short stretches of jogging are added. Times to complete the course are taken at several points during the nine week program.

On Tuesday, Thursday, and rainy days, the exercise activity takes place in the hospital gym. Sports, weight lifting, and exer-
TABLE 1

Social Skills Training Program Schedule

<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30</td>
<td>Roleplaying</td>
<td>Roleplaying</td>
<td>Roleplaying</td>
<td>Roleplaying</td>
<td>Roleplaying</td>
</tr>
<tr>
<td>11:30</td>
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</tr>
<tr>
<td>12:30</td>
<td>Generalization</td>
<td>Generalization</td>
<td>Aftercare Planning</td>
<td>Generalization</td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td>Community Homework</td>
<td>Community Homework</td>
<td></td>
<td></td>
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<tr>
<td>4:00</td>
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</tr>
<tr>
<td>7:00</td>
<td>Independent</td>
<td>Family Therapy</td>
<td>Cognitive Training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:30</td>
<td>Living Skills</td>
<td></td>
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</tbody>
</table>
cycling provide the patient with alternative stress-reduction techniques in order to maximize the likelihood of his selecting one of these techniques to practice on a regular basis in the community. Prior to the weekend home visit, each patient is asked what kind of exercise he will engage in over the weekend.

The relaxation regimen involving yoga and meditation in the holistic program did not initially gain the patients' compliance. Despite repeated instructions, the patients sat with their eyes open and were preoccupied with their shoe laces and glancing at one another. However, a procedure was developed which seems to produce adherence to the task. The meditation instruction starts with a one week period of listening to meditation music with eyes closed for 20 minutes. This acclimates patients to sitting quietly with eyes closed. During the second week, chanting "om shanti" for 5 minutes out loud and in unison is introduced. Chanting seems to develop the right mood and gets the patient started in the mantra repetition process in a manner that is publicly monitorable. Then each patient and therapist selects a personal mantra for use in private meditation. A tape developed by Patricia Carrington, Ph.D. is used to introduce the meditation procedure. Subsequently, the daily meditation session includes 5 minutes of public chanting and 15 minutes of private meditation.

On Tuesday and Thursday afternoons, patients participate in an educational program. The curriculum of the stress management program is designed to teach the patient strategies for controlling stress. The program consists of 16 one-and-a-half hour sessions which make use of audiotapes, written exercises, homework assignments, structured
discussions, and art therapy.

The tapes created by this author present the treatment rationale that schizophrenic relapse is stress-related and controllable. Patients learn a model for the development of stress, and which techniques are effective in reducing stress at each state. They learn the role of stressors in triggering schizophrenic episodes and what lifestyle factors increase their threshold for stress tolerance. The 16 tapes last from 10 - 15 minutes and have been designed to maximize comprehension by patients characterized by deficits in attention and information processing. An accompanying handout covering the key concepts with simplified diagrams and graphs is given to each patient during the taped presentation. Following the tape, the therapists conduct a structured discussion following a Discussion Guide. The discussion is designed to elicit the major points of the day's session from the patients, and to help them apply the ideas to their own lives. A six-item quiz provides a final check on their comprehension, and any gaps in their understanding are remedied. Many sessions include written assignments as well. For example, each patient fills out a Relapse Stressors Form which elicits the precipitating environmental and lifestyle stressors in the month preceding previous hospitalizations. The patient's parents fill out the same form during family therapy, and this information is used to increase the patient's awareness of the relationship between stress and his schizophrenic episodes. Strategies to minimize future exposure to the stressors associated with previous relapses are developed as the result of this session. Other sessions ask the patient to monitor his stress level
and record incidents of stress for homework. This information helps the patient to recognize his stress warning signs.

The sessions end with art therapy based on the day's topic, e.g., draw an environment containing many of your relapse stressors, draw the feeling of relaxation you get while meditating. The use of such varied teaching formats as tapes, discussions, written exercises, homework assignments, quizzes, and art is designed to increase the impact of the treatment by involving the patient in actively applying these concepts and skills in a variety of modalities and situations. Table 2 gives an outline of the topics covered in each session.

In addition to stress management training for controlling relapses, the holistic approach emphasizes that illness provides the patient with an opportunity for growth and change. The turmoil of schizophrenia, in particular, may unleash material from the mind's depths that could become a tremendous source of self-understanding and direction in the patient's life. A series of audiotapes have been developed which focus on the positive aspects of the psychotic experiences by presenting accounts of people who emerged healthier and happier than before. Other tapes describe individuals whose schizophrenic experiences enabled them to become successful cultural innovators, visionaries, religious mystics, shamans, and artists. This component of the program is designed to bolster the patient's self-image which has been damaged by the stigma and demoralizing experience of hospitalization, promote self-disclosure of the usually repressed contents of the patient's psychotic experiences, and initiate exploration for meaning in those experiences through non-
# TABLE 2

Outline of Tuesday and Thursday Afternoon Stress Management Education Sessions

<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>MATERIAL</th>
</tr>
</thead>
</table>
| 1    | Tuesday | **What is Holistic Health?**  
Tape, Attention Check Quiz, Discussion Guide  
Presentation of the basic principles of holistic health emphasizing self-responsibility  
Schizophrenia as a psychosomatic illness of the brain resulting from prolonged stress  
Art therapy: draw a picture that expresses yourself taking good care of your brain. |
| 1    | Thursday | **Stress and Illness**  
Tape, Attention Check Quiz, Discussion Guide  
The Fight or Flight Response  
The effects of prolonged stress on the body  
Relapse of schizophrenia triggered by stressors  
Art therapy: draw a picture of how you feel when having a Fight or Flight Response. Draw a picture of stress affecting the brain. |
| 2    | Tuesday | **Recognizing Stress**  
Tape, Attention Check Quiz, Discussion Guide  
The bodily, mental and behavioral signs of stress  
Art therapy: draw a picture of your bodily, mental, and behavioral stress warning signs. |
| 2    | Thursday | **What Causes Stress**  
Tape, Attention Check Quiz  
A three step model for the development of stress: the stressor, the stress filter, the coping response  
Art therapy: think of a specific stressful incident and draw the stressor, your stress filter, and then your coping response. |
| 3    | Tuesday | **Meditation Training**  
Tape, Mantra list  
Patients choose a mantra from a list of 16  
Tape #3 from Patricia Carrington's Meditation Training Program is used to introduce the technique. |
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>MATERIAL</th>
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<tbody>
<tr>
<td>3</td>
<td>Thursday</td>
<td>Managing Stressors: Universal Stressors</td>
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<td></td>
<td></td>
<td>Tape, Attention Check Quiz, Discussion Guide</td>
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<td></td>
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<td>The major factors that cause disharmony and can lead to illness:</td>
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<td></td>
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<td>overstimulation, isolation, poverty and life changes.</td>
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<td>4</td>
<td>Tuesday</td>
<td>Managing Stressors: Your Relapse Stressors</td>
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<tr>
<td></td>
<td></td>
<td>Tape, Attention Check Quiz, Relapse Stressor Form, Discussion Guide</td>
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<tr>
<td></td>
<td></td>
<td>The Relapse Stressor Form is filled out for the month period preceding</td>
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<tr>
<td></td>
<td></td>
<td>each hospitalization.</td>
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<td></td>
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<td>A list of known relapse stressors is compiled from this information</td>
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<td>Art therapy: draw a picture of an environment</td>
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<td>filled with your relapse stressors. Draw an environment without any of</td>
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<tr>
<td></td>
<td></td>
<td>your relapse stressors.</td>
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<tr>
<td>4</td>
<td>Thursday</td>
<td>Strengthening Your Stress Filter: Aerobic Exercise</td>
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<td></td>
<td></td>
<td>Tape, Attention Check Quiz, Discussion Guide</td>
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<td>Cardiovascular fitness improves general health and brings increased</td>
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<td>oxygen and nutrients to the brain</td>
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<td>Exercise burns up stress hormones in the blood</td>
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<td>Exercise builds up a cross-tolerance to stress</td>
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<td>Art therapy: draw yourself building resistance to stress by exercising.</td>
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<td>Draw yourself using exercise to reduce stress.</td>
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<tr>
<td>5</td>
<td>Tuesday</td>
<td>Strengthening Your Stress Filter: Meditation</td>
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<tr>
<td></td>
<td></td>
<td>Tape, Attention Check Quiz, Discussion Guide</td>
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<td></td>
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<td>Meditation produces a relaxation response that is the opposite of the</td>
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<td>stress response</td>
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<td>Meditation produces a state of hypersynchrony where the brain waves from</td>
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<td>the right and left hemispheres are synchronized.</td>
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<td>Art therapy: draw the feeling of relaxation you get while meditating.</td>
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<td>Draw the state of hypersynchrony between the right and left brains while</td>
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<td>meditating.</td>
</tr>
<tr>
<td>5</td>
<td>Thursday</td>
<td>Strengthening Your Stress Filter: Medication</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tape, Attention Check Quiz, Discussion Guide</td>
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<td></td>
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<td>Medication reduces the arousal of the autonomic nervous system, slowing</td>
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<td>down the Fight or Flight response</td>
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<td>Medication equalizes arousal between the right and left sides of the</td>
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<td></td>
<td>brain</td>
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<td></td>
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<td>Medication reduces the chance of relapse</td>
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<td></td>
<td></td>
<td>Art Therapy: Draw a picture that represents the benefits of medication.</td>
</tr>
<tr>
<td>WEEK</td>
<td>DAY</td>
<td>MATERIAL</td>
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<tr>
<td>------</td>
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</tr>
</tbody>
</table>
| 6    | Tuesday | **Strengthening Your Stress Filter: Nutrition I**  
Tape, Attention Check Quiz, Discussion Guide  
The basics of preventive nutrition  
The "white" plague - white sugar and white flour  
Art therapy: draw a picture of your favorite junk foods and how they can affect your body. Draw a picture of your favorite health promoting foods and how they affect your body. |
| 6    | Thursday | **Strengthening Your Stress Filter: Nutrition II**  
Salad ingredients, utensils  
Preparing a healthy meal |
| 7    | Tuesday | **Developing Constructive Coping Responses I**  
Tape, Attention Check Quiz, Discussion Guide  
Destructive coping responses and how to avoid them  
Art therapy: draw a destructive coping response that you have used in the past and the negative effects it had. |
| 7    | Thursday | **Developing Constructive Coping Responses II**  
Tape, Attention Check Quiz, Discussion Guide  
Constructive coping responses for different kinds of stressors  
Developing specific stress reduction plans  
Art therapy: draw yourself using constructive coping responses and reducing stress. |
| 8    | Tuesday | **Developing Constructive Coping Responses III**  
Tape, Attention Check Quiz, Discussion Guide  
Constructive Thinking versus stress thinking  
Art therapy: draw a cartoon with a balloon containing examples of your stress thinking and how you feel. Draw a cartoon with a balloon containing examples constructive thinking. |
| 8    | Thursday | **Aftercare Lifestyle and Environmental Goals I**  
Tape, Attention Check Quiz, Discussion Guide  
Learning your stress warning signs  
Setting goals that will minimize your exposure to your known relapse stressors.  
Art therapy: draw your most important stress warning signs. Draw yourself achieving your goals. |
| 9    | Tuesday | **Aftercare Lifestyle and Environmental Goals II**  
Tape, Attention Check Quiz, Discussion Guide  
Setting goals for developing a regular stress reduction program  
Art therapy: draw yourself carrying out your stress reduction plan. |
<table>
<thead>
<tr>
<th>WEEK</th>
<th>DAY</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Thursday</td>
<td>Make-up Session or Review Session</td>
</tr>
</tbody>
</table>
verbal techniques.

Table 3 outlines the topics covered during the Tuesday evening sessions.

To further mobilize the patient's beliefs regarding his ability to recover, the Monday afternoon sessions have been modeled after the Simontons' (1978) innovative visualization techniques for cancer patients. The patient draws and visualizes his brain becoming healthier and the two hemispheres cooperating more harmoniously with each other. The visualization images are based on Julian Jaynes (1978) theory that schizophrenia is a stress-induced disharmony between the right and left brains. This theory provides the schizophrenic with a scientific explanation for his unusual mental experiences and seems to have a healing effect by replacing the fear of the unknown with a "sense of understanding."

Other aspects of successful functioning in the community such as setting and achieving goals are discussed, visualized, and expressed in art therapy. The objective is to mobilize the patient's positive expectations about his ability to stay well and achieve his goals while in the community. Table 4 outlines the topics covered during the Monday afternoon sessions.

One evening a week is devoted to exercises culled from humanistic psychology and educational sources which are designed to promote development of a positive self-image. The importance of maintaining a positive self-image is emphasized, and the exercises help to catalog a variety of the patient's assets and good qualities. The specific exercises utilized are listed in Table 5,
TABLE 3

Outline of Tuesday Evening Holistic "Growth and Schizophrenia" Sessions

1. Schizophrenia as a Growth Experience
   The case of Beatrice who emerged from her psychotic experience healthier and happier than before.
   Quotation on the relationship between schizophrenia and growth
   Art therapy: draw a picture that represents personal growth to you.

2. A Closer Look at Your Schizophrenic Experience I
   The feelings, thoughts and experiences of schizophrenia
   The Kink's song, "Acute Schizophrenia Paranoia Blues"
   Art therapy: draw a picture expressing the new feelings, thoughts and experiences you had during your schizophrenic experience.

3. Schizophrenia and Social Change: Handsome Lake
   An American Indian whose visions and hallucinations were the basis for a new religion among the 18th century Iroquois Nation
   Art therapy: draw yourself as a prophet whose visions help create a new society or religion.

4. Schizophrenia and Personal Change: Indian Vision Quests
   The similarities between the self-induced altered states of consciousness of Indians seeking their identities and the acute schizophrenic
   Art therapy: draw yourself as an Indian during a vision quest. Include elements from your own schizophrenic experience, such as animals encountered.

5. Schizophrenia and Healing: The Shaman
   The shaman is called to his respected position as the tribal healer following an acute schizophrenic experience.
   Art therapy: draw yourself as a shaman in a primitive tribe who can help to heal other people.

6. Schizophrenia and Religion: Mysticism
   The similarities between deeply religious experiences and schizophrenic experiences.
   Art therapy: draw a picture representing any religious or highly meaningful part of your schizophrenic experience.

7. Schizophrenia and Art: Perceptual Alteration
   The enhancement of Vincent Van Gogh's creativity as he expressed the altered states of perception of his psychosis
7. Art therapy: draw a picture of an altered state of perception that you experienced during your schizophrenic episode.

8. Schizophrenia and Art: Artists with Visions
   Allen Ginsburg, a poet whose visionary experiences were a turning point in his work, but also landed him in a psychiatric hospital with a diagnosis of schizophrenia
   Art therapy: draw a picture of yourself with enhanced personal creativity and making use of it.

9. A Closer Look at Your Schizophrenic Experience II
   How have you changed as a result of your schizophrenic experience? What new experiences, insights, feelings and thoughts did you have?
   Art therapy: draw a picture that expresses these changes
### TABLE 4

Outline of Monday Afternoon "Developing Positive Beliefs" Sessions

<table>
<thead>
<tr>
<th>WEEK</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Introduction to the Holistic Program and Schedule</strong>&lt;br&gt;<strong>Tape, Attention Check Quiz, Discussion Guide</strong>&lt;br&gt;<strong>Presentation of daily schedule</strong>&lt;br&gt;<strong>Rationales for running, meditation and other program components</strong></td>
</tr>
<tr>
<td>2</td>
<td><strong>What is Schizophrenia: The Split Brain Theory</strong>&lt;br&gt;<strong>Tape, Attention Check Quiz, Discussion Guide</strong>&lt;br&gt;The explanation of schizophrenia as the result of right brain/ left brain disharmony&lt;br&gt;<strong>Presentation of simplified pictures illustrating this</strong>&lt;br&gt;<strong>Art therapy: draw a picture that represents the state of dis-harmony between your left and right brains as you experience it.</strong></td>
</tr>
<tr>
<td>3</td>
<td><strong>What is Schizophrenia II</strong>&lt;br&gt;<strong>Tape, Attention Check Quiz, Discussion Guide</strong>&lt;br&gt;<strong>Review of Split Brain Theory</strong>&lt;br&gt;<strong>Hallucination, thought insertion and delusions of control explained by this theory</strong>&lt;br&gt;<strong>Art therapy: redraw previous week's picture to represent greater harmony between between the right and left brains</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>What is Schizophrenia III</strong>&lt;br&gt;<strong>Tape, Attention Check Quiz, Discussion Guide</strong>&lt;br&gt;<strong>Additional information on hallucinations</strong>&lt;br&gt;<strong>Presentation of new pictures illustrating the Split Brain</strong>&lt;br&gt;<strong>Art therapy: continued work on developing a positive image of right brain/left brain harmony</strong></td>
</tr>
<tr>
<td>5</td>
<td><strong>Developing Positive Beliefs About Your Ability to Live With Schizophrenia</strong>&lt;br&gt;<strong>Tape, Attention Check Quiz</strong>&lt;br&gt;<strong>Commonly held negative beliefs about schizophrenia</strong></td>
</tr>
<tr>
<td>WEEK</td>
<td>MATERIAL</td>
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<td>------</td>
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</tr>
</tbody>
</table>
| 6    | **Developing Positive Life Goals I**  
      | Tape, Attention Check Quiz, Discussion Guide  
      | Importance of having concrete goals and a timeframe for achieving them  
      | Developmental tasks of different life stages  
      | Art therapy: draw a picture of yourself achieving your most important goal |
| 7    | **Developing Positive Life Goals II**  
      | Continuation of previous session |
| 8    | **Staying Well In the Community**  
      | Developing positive expectations of your ability to stay well achieve goals while in the community  
      | Art therapy: draw a picture of yourself 5 years from now. |
| 9    | **Overcoming fears About Readjustment**  
      | Discussion of last minute fears about going to live in the community |
TABLE 5

Outline of Thursday Evening Self-Esteem Sessions

<table>
<thead>
<tr>
<th>WEEK</th>
<th>MATERIAL</th>
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</thead>
</table>
| 1    | Importance of Self-Esteem  
Discussion of 5 quotations dealing with self-esteem  
Each person picks out his favorite and gives his reasons for selecting it  
Art therapy: select one of a list of 20 quotations and draw based on the quotation. |
| 2    | Nature Walk  
A walk to the picnic grounds at dusk  
Watch the sunset  
Unstructured discussion on the importance of being connected to nature |
| 3    | Coat of Arms  
Art exercise of drawing one's strengths as a friend, family member, worker, athlete  
Discussion of each of these areas |
| 4    | "Who Am I" Collage  
Cutting out pictures from magazines and making a collage that expresses your uniqueness  
Discussion on each person's collage |
| 5    | Magic Circle Discussion  
Topics focus on success experiences and skills |
| 6    | Commercial For Myself  
Compose an advertisement for yourself. It can be a radio ad read out loud or a magazine ad with a picture. |
<table>
<thead>
<tr>
<th>WEEK</th>
<th>MATERIAL</th>
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</table>
| 7    | **Magic Circle Discussion**  
Problems and fears that you have dealt with  
Problems and fears still to face |
| 8    | **Self-esteem Tree**  
Exercise focusing on the roots of one's self-esteem |
| 9    | **Maintaining Self-esteem in the Community**  
Open discussion of upcoming readjustment and threats to self-esteem |
Patients in the holistic program are also in a weekly after-care group with a social worker which focuses on developing concrete goals and plans. The holistic patients join the social skills patients when they go into the community for their homework assignments. Therefore, both groups spend equal time in the community. Family therapy for holistic patients is conducted by the unit psychiatrist. During these weekly sessions, the families are encouraged to confront conflicts, discuss them, ventilate feelings, make future plans, and gain insight into their relationships. Table 6 presents the schedule of sessions and their times.

Dependent Measures

Table 7 lists the dependent measures and the frequency of their administration.

In addition to this data, the case histories are based on personal observations of the patients during the course of therapy, the patients' charts, information collected by the aftercare social worker concerning their social adjustment, tapes of interviews conducted with the patients' parents prior to the beginning of the program, and a one-hour interview conducted three to six months after the end of the program. The questions covered during the interview are listed in Table 8.

Validation of Interpretations

The first drafts of the case studies were circulated to two "independent experts" as a check on the consensual validity of the interpretations: Chris Ferris, Ph.D., a psychologist who was one of
<table>
<thead>
<tr>
<th>Time</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td></td>
<td>Yoga</td>
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<tr>
<td>11:30</td>
<td>Jogging</td>
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<tr>
<td>12:30</td>
<td>Developing</td>
<td>Stress</td>
<td>Aftercare and</td>
<td>Stress</td>
<td>Stress</td>
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<td></td>
<td>Positive</td>
<td>Management</td>
<td>Leisure</td>
<td>Management</td>
<td>Management</td>
</tr>
<tr>
<td>2:00</td>
<td>Positive</td>
<td>Management</td>
<td>Counseling</td>
<td>Education</td>
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<tr>
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<td>Family Therapy</td>
<td>Growth and</td>
<td>Learning to</td>
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<td>8:30</td>
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# TABLE 7

## Dependent Measures

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<th>Name</th>
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<td>Brief Psychiatric Rating Scale (BPRS)</td>
<td>Bi-weekly and every follow-up</td>
<td>Psychiatrist</td>
</tr>
<tr>
<td>Psychiatric Assessment Scale (PAS)</td>
<td>Bi-weekly and every follow-up</td>
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</tr>
<tr>
<td>Clinical Global Impressions (CGI)</td>
<td>Bi-weekly and every follow-up</td>
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<td>Nurses' Observation Scale for Inpatient Evaluation (NOSIE-30)</td>
<td>Weekly</td>
<td>Nursing Staff</td>
</tr>
<tr>
<td>Nurses' Global Impressions (NGI)</td>
<td>Weekly</td>
<td>Nursing Staff</td>
</tr>
<tr>
<td>Social Interaction Schedule</td>
<td>Four times daily</td>
<td>Nursing Staff</td>
</tr>
<tr>
<td>Tests of Interpersonal Cognitive Problem Solving Skills (MEPS; Options)</td>
<td>Pre** and post** and 9 month follow-up</td>
<td>Staff</td>
</tr>
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<td>Rathus Assertiveness Schedule</td>
<td>Pre and post and every follow-up</td>
<td>Patient</td>
</tr>
<tr>
<td>Social Anxiety and Distress Scale</td>
<td>Pre and post and every follow-up</td>
<td>Patient</td>
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<tr>
<td>Fear of Negative Evaluation Scale</td>
<td>Pre and post and every follow-up</td>
<td>Patient</td>
</tr>
<tr>
<td>Minnesota Multiphasic Personality Inventory (MMPI-168)</td>
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<td>Patient</td>
</tr>
<tr>
<td>Symptom Check List 90 (SCL-90)</td>
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<td>Patient</td>
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<tr>
<td>Name</td>
<td>Frequency of Collection*</td>
<td>Rater</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>--------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Confederate Test of Social Skills</td>
<td>Pre and post and 9 month follow-up</td>
<td>Staff and Patient</td>
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<td>Role Play Test of Social Competence</td>
<td>Pre and post and 9 month follow-up</td>
<td>Staff</td>
</tr>
<tr>
<td>Shipley-Hartford IQ Test</td>
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<tr>
<td>Tennessee Self-Concept Test</td>
<td>Pre and post and 9 month follow-up</td>
<td>Patient</td>
</tr>
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<td>In-therapy process assessments</td>
<td>Daily</td>
<td>Staff</td>
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<tr>
<td>Katz Social Adjustment (KAS)</td>
<td>Pre and 9 month follow-up</td>
<td>Patient and Family</td>
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<td>Present State Examination (PSE)</td>
<td>Pre and post and 9 month follow-up</td>
<td>Psychiatrist</td>
</tr>
</tbody>
</table>

*Follow-ups are scheduled at 1, 3, 6, 9, and 12, 18, and 24 months post therapy.

**Pre and post refer to pretreatment and posttreatment.
TABLE 8

Interview Schedule

How have you been since the program ended?

How have you been able to cope with life since the program, better or worse?

Did the skills you learned in the program apply?

Why do you think this approach was chosen?

How did you experience the program? What was it like for you?

What would be the ideal treatment for you?

What would be the ideal living environment for you?

What have been your major difficulties or problems in living?

What is your explanation for your illness?

When did your earliest difficulties start?

Could you or your parents have done anything to prevent your problems?

What do you see for yourself in the future?

How can you keep yourself well?
the primary therapists in the research project; and Sandy Rappe, the social worker who maintained weekly contacts with each of the patients after their discharge and has the best perspective on their subsequent social adjustment. Then, their comments were integrated into the interpretation. When either of their interpretations differed markedly from my own, I attempted to reconcile the differences through discussion.

"Agreement by independent experts" is one of the criteria that Allport (1942) lists for judging the validity of interpretations in intensive case studies. Several of his other criteria were also utilized to assess the value of the interpretations. The author's "subjective certainty" played a large role in the development of the case studies. "Internal consistency," "directness of interpretation," and "the value of the interpretations in illuminating the personality under study" are three of his other criteria that were evaluated by the other readers of these case studies, which included the two independent experts listed above, and the three thesis committee members in the Department of Psychology at Loyola University of Chicago. The "story" of the case studies was woven on the warp of an extensive data base which tracked the patients' progress from the beginning of treatment through regular follow-up assessments in the community and weekly contacts by the aftercare social worker. Therefore, "conformity with known facts," another of Allport's criteria was instrumental in the construction of these case studies. The use of these criteria represent strategies to maximize the believability and validity of the interpretations utilized in these case studies.
CHAPTER V

MOST SUCCESSFUL HOLISITIC PATIENT: B.

Mental Status and Behavior on Admission

B. was brought to Camarillo State Hospital by the police on a 3-day hold after he was observed running up and down a street at 1:00 a.m. knocking on various strangers' doors. When questioned, he was unable to answer coherently and just mumbled "creme de menthe." On admission, he appeared agitated, anxious, and confused. The Present State Exam, administered shortly after his admission, revealed several delusions. He believed that the hairs on his body had names, and the black hairs were connected to tigers in Wyoming. He also believed that some Japanese people wanted him to speak their language for a special mission. Thought blockage, neologisms, flight of ideas, and incoherence were also observed during the interview.

Psychiatric History

B. turned 21 while participating in the holistic treatment program. By this time, he had been hospitalized 10 times, all in the previous 3 years (see Figure 2). B.'s first hospitalization occurred during the spring of his senior year of high school. According to
Figure 2. Hospitalization and work history of B.
his parents, he was staying up all night, talking to himself, running outside, and yelling at imaginary people. He was released from the hospital after 3 weeks and was able to graduate with his class in June by attending a continuation school. In the fall, he attended a local community college, but became extremely upset as his eighteenth birthday approached. He behaved as he had during the previous spring and was rehospitalized. Over the next 3 years, B. was in and out of hospitals eight more times including stays in adolescent and drug programs. Some were only for a few days because he often went AWOL or left "against medical advice." Four days prior to his admission to Camarillo, he had gone AWOL from another state hospital. His next previous hospitalization was only six weeks before that one.

Many of B.'s hospitalizations involved violent behavior. The police and psychiatric emergency team had to bring him to the hospital in handcuffs on several occasions. He demolished his bedroom with an ax. He made threats that he would kill his parents and once kicked his father and knocked his aunt to the floor. His two older brothers had to tie him up and forcibly bring him to the hospital during one such period of violent behavior. His behavior in the hospital included incidents such as the following taken from his hospital chart:

Mr. B. walked over to patient case #__________ who was sitting in a chair and kicked him in the left side of the face without any apparent provocation. There is a one inch cut on the left side of case #__________'s face. Mr. B was given haldol 5 mg and placed in soft ties.
When agitated, B. has also been self-destructive:

Patient up and about, refuses to stay in bed, walking around unit throwing himself against walls again—appears agitated, very hostile.

At one point, B. was considered such a high risk for violence that his social worker wanted to place him in a locked facility.

**Personal History**

According to B.'s parents, B. had a happy and active childhood. He was an average student but excelled at athletics. He joined the Indian Guides and Boy Scouts and travelled throughout the United States, Canada, and Hawaii. He had many friends and was popular with his male and female peers. In junior high school, B. played on the school football team and Little League. Junior high school was also a period of rapid growth: 7 inches in 18 months; 11 inches in 30 months. At 6'11" while still 14, B. appeared old enough to purchase beer and cigarettes for himself and his friends. Conflicts between B. and his parents regarding his use of marijuana, beer, and cigarettes started at this time and have continued through the subsequent 7 years.

In high school, B. became heavily involved in surfing, and along with this network of friends, began to use drugs more heavily. He used marijuana and alcohol several times a week and often obtained PCP, LSD, and other street drugs. He was arrested twice during high school for possession of drugs.

After graduation, his drug use escalated. His lifestyle over the following 3 years revolved around drugs. All the members of his
social network were heavy drug users. Marijuana and alcohol became daily habits. His parents had placed $4,000.00 in a trust fund for B.'s education. At 18, B. had the right to draw upon these funds without his parents' permission, and he spent the entire amount on drugs. Ingestion of drugs was a suspected factor in several of his hospitalizations.

B.'s work history is poor (see Figure 2). He held a part-time job as a box boy for 7 months during high school, and worked for 3 months at a lumber company during the summer between high school and college. After his second hospitalization, he worked as a clerk's helper at a sporting goods store for 6 months but was fired after getting into a fight. During the past 3 years, he has only held one job, delivering pizzas, which lasted 3 weeks.

Between hospitalizations, he has lived at home part of the time and also at board-and-care facilities. He has never lived independently. Once out of the hospital, he has quickly returned to his drug-oriented friends and lifestyle. Over the last year and a half, he has reportedly been too exhausted and strung out on drugs to surf. Watching TV, getting high, and being hospitalized have been the foci of B.'s life over the past 3 years.

Family History

B.'s parents have continued to be actively involved with his life. They spent their entire $15,000.00 savings on treatment programs and professional help. Both of B.'s parents have graduate
degrees in psychology and have participated in family therapy in other hospitals as well as the family sessions during this program. The family therapy sessions were oriented toward developing a contract to enable B. to live at home.

Although very discouraged over his multiple hospitalizations and destructive behaviors, they have said they will never give up on him. However, the nature of their involvement with B. has been rated as "overcritical" by an interviewer reliably trained to code critical, hostile, rejecting, and overinvolved attitudes of parents toward their schizophrenic children. During this interview, both parents expressed many critical remarks directed at B.'s personality. The father also displayed overprotective attitudes which have led him to secretly follow B. to parties in order to observe his drug habits. The interviewer wrote that the father, "while clearly concerned, displayed relatively little sympathy, empathy, or understanding, appreciation or interest in his son's activities, affection, or needs (from his son's point of view)." B. often stated during the program that he wanted more affection and emotion from his father. B. also claimed that his father never said anything positive to him, and the interviewer verified this, noting that he found "no clear, unreserved, positive remarks" about B. by the father.

Despite the severity of B.'s illness over the past 3 years, both parents continue to have high expectations for B. in terms of employment and "making something of his life." They have not modified their upper middle class desires for B.'s achievement despite
his inability to function at such a high level. During the interview, they made comparisons between B. and another brother who has been very successful in school in front of B. and to others. These expectations along with their disapproval of B.'s lifestyle have been a source of stress in B.'s life for the past several years.

In addition to the brother, 28, who has been very successful in school, travelled through the United States and Europe as a licensed skiing instructor, and works as a high school language teacher, B. has another older brother aged 30. The elder brother has been hospitalized and jailed frequently, and the descriptions of his behavior suggest that he also has symptoms of schizophrenia. He is currently in a state psychiatric hospital for criminal offenders. The signs of this brother's instability did not emerge until after he graduated from college with honors. While B. was in junior high school, he witnessed his brother's bizarre behavior and was involved in several family crises revolving around him. B.'s parents report that none of their other relatives have been treated for psychiatric illnesses.

Results: Treatment Phase

During the 10-week treatment program, B. showed improvement on virtually every clinical dimension assessed. On the PSE at discharge, he had no psychotic symptoms. Table 9 and Figure 3 show the steady rate of decline in psychopathology on the biweekly ratings of the Psychiatric Assessment Scale made by the unit psychiatrist. The levels of depression, anxiety, flattened affect, motor retardation,
delusional speech, irrelevant speech, and muteness reduced from a combined first week score of 20 out of a possible 32 to a score of 1 at discharge. The Psychiatrist's Global Impressions of severity of illness, graphed in Figure 4, also steadily improved from a rating of "markedly ill," a 5 on the 1 to 7 scale, to a rating of "normal, not at all ill," a score of 1. The Nurse's Global Impression of severity of illness, also in Figure 4, showed the same consistent downward pattern over the course of the program to a rating of "normal, not at all ill" at discharge.

B.'s self-report measures also showed marked improvement. On the Symptom Checklist-90, shown in Table 10 and Figure 5, he initially reported distress associated with 66 of the 90 items. At posttest, he checked only 20. All items were rated on a 0 to 4 scale indicating level of distress associated with each symptom. B's pretest average level of distress for the symptoms he checked as present was 2.0. At posttest, it had declined to 1.3. Figure 6 shows the changes on the Positive Symptom Distress Index of the SCL-90.

At pretest, seven of B.'s MMPI scales were elevated above 70 (see Table 11). At posttest, only Hs and Pd were still above 70, and both of these had decreased. D, Pa, Pt, and Ma returned to within the normal range. The Sc scale, while not in the abnormal range at pretest, declined from a T score of 64 to 51.

B.'s self-concept, as assessed by the Tennessee Self-Concept Test, showed an increase in overall level of self-esteem from the third percentile to the fifteenth percentile. Particularly large
### Table 9

**Psychiatric Assessment Scale Ratings on B.**

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<th>Aftercare Phase</th>
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<td>Muteness</td>
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<td>Total</td>
<td>20  17  14  13  3  4  1  0  3  6  6  6  6</td>
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**Scale:**

0 = absent
1 = mild
2 = moderate
3 = marked
4 = severe
Figure 3. PAS ratings of B.
Figure 4. Clinical Global Improvement Ratings of B.
Table 10

Symptom Checklist-90

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<tr>
<th>DATE</th>
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<th>25</th>
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<td>.1</td>
<td>.4</td>
<td>.9</td>
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<td>.9</td>
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<td>.2</td>
<td>.4</td>
<td>1.2</td>
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<td>0</td>
<td>0</td>
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<td>1.2</td>
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<td>70</td>
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<tr>
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<td>1.3</td>
<td>1.0</td>
<td>1.3</td>
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</table>

All symptoms rated on a 0(not at all) to 4(extremely) scale of self-reported distress

GSI-General Symptom Index = \( \frac{\text{Sum of all items}}{\text{No. of Items}} \)

PST-Positive Symptom Total = \( \frac{\text{No. of items rated as causing distress}}{\text{Sum of all items}} \)

PSDI-Positive Symptom Distress Index = \( \frac{\text{Sum of all items}}{\text{PST}} \)
Figure 5. Number of items rated positively by B. on the SCL-90
improvements were noticeable on the scales measuring self-esteem regarding "physical self"—his view of his body and state of health, and "personal self"—his sense of personal worth and feelings of adequacy as a person.

Daily observation of B.'s behavior by the nursing staff showed an increase in positive social interactions from 24% of the observations during the first week to 35% during the last week. On the Rathus Assertiveness Schedule, a self-report measure of social skills, he showed an increase in characteristic assertive responses from a score of 1 to 28. On the Fear of Negative Evaluation (FNE) and Social Anxiety and Distress (SAD) tests, self-report measures of comfort level during social interactions, B. showed decreases in social anxiety. His FNE went from 22 to 16, and his SAD from 16 to 5. Thus, B.'s social skills and rate of social interaction also changed positively during the course of the holistic program.

Participation in the Holistic Program

Despite B.'s size, disheveled appearance, and agitated behavior, I was not hesitant when I approached him to attend the first session on the first day of treatment. I had spent about 15 hours with him during the previous baseline week. Along with five other patients, we had gone on several outings to a local restaurant, a movie, a miniature golfing course, and a bowling alley. During these excursions, B. had seemed good-natured and calm, even to the point of being "spacey." Therefore, I was not expecting the blow I
Figure 6. Positive Symptom Distress Index of B. reflecting severity of symptoms
Table 11

MMPI Scores of B.

<table>
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<th>Scale</th>
<th>T score</th>
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<th>Post</th>
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<td>L</td>
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<td>F</td>
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<td>K</td>
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<tr>
<td>D</td>
<td>84</td>
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<td></td>
</tr>
<tr>
<td>Hy</td>
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<td>Ma</td>
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</tr>
<tr>
<td>Si</td>
<td>51</td>
<td>42</td>
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</tbody>
</table>
received from him right after asking him to join me—a kick between my legs.

Despite this ominous beginning, B. became an enthusiastic participant in the holistic program. After being placed back on medication, which he had been off of for a week, there were no subsequent incidents of violent behavior. B. took quickly to the morning routine of yoga, jogging, and meditation. Although he had been physically active in sports and surfing for most of his life, he had abandoned these pursuits while rotating through his recent string of hospitalizations. As opposed to most of the other holistic patients who expressed some negative feelings about the running, B. approached the running as a renewal experience, a chance to return to the bedrock of his body. During the runs, he took deep breaths and talked about how good it felt to be getting his body into shape again. On Cooper's (1978) 12-minute test of aerobic fitness, he improved from initially completing 2.5 laps of a 440-yard track to finishing 4.5 laps in the same time at the end of the program. The yoga, which for many patients was an alien and initially unpleasant experience, reminded B. of the stretching exercises he practiced while training for football.

B. also enjoyed the group discussions centering on stress, and his quiz scores showed he comprehended the concepts readily. He averaged 5.3 correct out of six true-or-false items given after each stress-education session.

B.'s enthusiasm for the material dealing with stress may have
been aided by some medical problems he was having at the time of the program. B. complained about abdominal pains that occurred after eating, the classic symptom of ulcers. He was given an upper G.I. x-ray which revealed duodinitis, an irritation of the lining of the intestine just below the stomach. Another of the holistic patients had similar G.I. problems. Since such ailments are affected by stress, holistic methods of controlling stomach problems became the focus of several sessions. The use of stomach distress as a warning sign, a signal to exercise or relax or take care of some problem was emphasized. B. showed ready acceptance of holistic techniques for dealing with his stomach distress.

The evening "Growth and Schizophrenia" sessions provided a forum for B. to discuss his recent psychotic experiences, and he particularly liked expressing these experiences nonverbally in art. Of the 13 patients who have participated in the holistic program, B. was one of the few who appreciated and absorbed the tapes which presented schizophrenia as a potential growth experience. He discussed with his parents one of the tapes which involved Handsome Lake, an Iroquois Indian who lived in the late eighteenth century. Handsome Lake had a series of hallucinations and visions which became the basis for a new religion and revitalization movement. B. seemed to gain objectivity towards some of his own visions which involved angels talking to him and seeing a ladder to heaven when this same content appeared on a tape on the similarities between mysticism and schizophrenia.
B. remained involved with street drugs during the program. He was found with marijuana on the unit twice during the program. On a camping trip with the unit, a rule had been established that if any patient was found using drugs, the trip would immediately be terminated. Within a couple of hours of arriving at the campsite, B. and another patient lit up a joint a few feet in front of one of the staff members. He also admitted smoking marijuana on his home visits.

**Results: Aftercare Phase**

The first 12 weeks were a honeymoon period in the relationship between B. and his parents. After years of conflict and disharmony, B.'s parents were euphoric over his mental state and behavior. They wrote letters to the hospital staff, to the director of Camarillo State Hospital, and to NIMH. The aftercare social worker visited B. weekly and reported that he was riding his bicycle daily for exercise, looking for a job, and maintaining a good relationship with his parents. B. said his stress level was low at this time. At the 6-week follow-up testing, he reported even fewer symptoms than at discharge: 7 versus 20 (Figure 5). The psychiatrist's global rating (Figure 4) continued to show him as "normal, not at all ill." On the Psychiatric Assessment Scale (Figure 3), no residual symptoms were rated. At 10 weeks, his doctor lowered his medication from 400 mg of mellaril to 300 mg because he was doing so well (Figure 7).

But starting at 12 weeks, B.'s parents became dissatisfied. While acknowledging that B. was handling discussions and suggestions
Figure 7. Medication adherence record of B.
regarding conflict areas quite well and was not experiencing hallucinations, nightmares, or paranoid reactions as in the past several years, they stated in a letter to the social worker that they were "not satisfied with the slow process of rehabilitation." They expressed concern that B. was getting into a "welfare syndrome" with no goals for employment. His desire to simply surf and hang around with friends was unacceptable to them despite his lack of hostility and bizarre behavior, and his newly recovered ability to function in the community. Thus, they continued to put pressure on B. to perform and achieve in ways he was clearly not committed to and possibly not capable of. The relationship between them quickly deteriorated. A few days after sending a letter to the social worker about their concerns, they found B. smoking marijuana in the house and told him to leave the home for 4 weeks as per a previously agreed upon contract between them. B. went to live with some of his friends at the beach. He also reported that he lowered his daily medication from 300 mg of mellaril to 200 mg.

One week after returning to live at home following his 4-week stay with friends, the 15-week follow-up assessment was conducted. It showed a slight deterioration in B.'s condition. The psychiatrist's ratings on the PAS (Table 9) showed mild depression, anxiety, and irrelevance of speech. His self-report of symptoms on the SCL-90 (Figure 5) went from 7 at the previous testing 3 months before, to 27, higher than his discharge score of 20. Severity of distress also increased to his discharge level with paranoia and interpersonal sensitivity particularly elevated.
After visiting him at home in the sixteenth week, the social worker reported that B. had stopped taking medication entirely. In the nineteenth week, B. experienced an exacerbation of symptoms. His parents reported that he was staying out all night several times a week and was talking to himself. The social worker rated him "markedly ill" after visiting him. In the twenty-first week, B. went to an emergency room. Unlike his previous hospitalizations which have often involved violent behavior and police or psychiatric emergency team intervention, B. went voluntarily. He apparently understood that he was becoming psychotic. The emergency room physician gave him an injection of haldol and he recompensated very quickly. He was released the next morning. Despite the recurrence of B.'s symptoms, his handling of this episode represented an increase in his insight into his illness and improved self-management skills. However, B. is clearly in a precarious position. He was able to forestall a major psychotic episode through his effective handling of this incident and medication. But B. seems to have lost momentum to maintain a successful community-based life. He is now at odds with parents who no longer want him living in their home. He has not made any progress in finding a vocational direction or developing a social network other than with his drug-oriented friends. B.'s future seems to revolve around avoiding hospitalization rather than constructive engagement with the struggles of living successfully in the community.
Interview Results

I interviewed B. during the 15-week testing just after he had moved back home again. I had not seen him in the 5 months since the program ended and did not recognize him at first. While in the program, B. often appeared disheveled and ungroomed. He walked around in his jogging shorts with his underwear extending beyond the shorts. He often did not shave, shower, or comb his hair, and had a protruding stomach. Five months later, he appeared quite dapper. He was well-groomed and clean shaven with a neatly trimmed mustache. He was dressed in clothing that fit his trim body.

During the interview I probed for his reactions to the holistic program and how he felt the program had affected his life. In a statement that clearly represented the holistic treatment rationale, B. stated:

I learned ways of dealing with stress. (such as?) Exercising and communicating. I used to get so tense, like there was a heart beating in my head, so agitated. Now I take better care of my body.

He said that when he wanted something to eat, he would make a poached egg on toast instead of eating a candy bar. He stated the basics of health to him were proper food and sleep, and that he was managing both of these well. He also stated that he was smoking marijuana only twice a week and not using any other drugs. However, there are reasons to doubt the accuracy of his self-reported drug usage which are discussed in the final section. B. claimed to be walking 5 to 10 miles a day, and had just purchased a wet suit and surfboard in order
to pursue his passion with surfing. B. also said he practiced a form of meditation involving concentration on a spot on a wall rather than repeating a mantra as taught in the holistic program. Thus, B. claimed to be carrying out the major objectives of the stress management program. He reported that it had been helpful to examine what he had been doing to bring about his previous hospitalizations: "I don't think I'll ever be hospitalized again. I know now what not to do."

Discussion

While the final draft of this account of B. as the most successful holistic patient from the first two treatment groups was being written, B. was rehospitalized in a floridly psychotic state. Thus, in this discussion section, factors relevant both to B.'s success in the program as shown by the 6-month period of community functioning, the longest such period in the past 3 years, as well as factors affecting his eventual relapse, will be examined.

In analyzing the positive impact the holistic program had on B., four factors emerge as important: 1) stressors triggered many of B.'s hospitalizations; 2) B. was motivated to learn about stress because of his psychosomatic G.I. problems; 3) physical exercise had been a source of many successful and enjoyable experiences for B.; 4) B. was interested in exploring the nature of his psychotic experiences in order to enhance his self-understanding.

Training in stress management techniques was a relevant intervention for B. because stressful life events preceded at least the
first two of his hospitalizations. Information on life events is hard to gather after the second hospitalization, and they were so closely spaced that it is doubtful he had fully recovered after most of the subsequent hospitalizations. Although the exact dates of events in B.'s last year of high school are difficult to reconstruct, he was subjected to a large number of stressors at the time of his first hospitalization. Marx, Garrity, and Bowers (1975) developed a scale modeled after Holmes and Rahe's Life Events Schedule, but adapted for measuring stress associated with life events which teenagers face. On this scale, B. accumulated a high score based on the following events:

<table>
<thead>
<tr>
<th>Life Event</th>
<th>Life Event Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug use</td>
<td>49</td>
</tr>
<tr>
<td>Trouble with school administration</td>
<td>45</td>
</tr>
<tr>
<td>Beginning or ending school</td>
<td>26</td>
</tr>
<tr>
<td>Trouble with law</td>
<td>63</td>
</tr>
<tr>
<td>Change in health of family member (e.g., brother's hospitalization)</td>
<td>44</td>
</tr>
<tr>
<td>Conflict or change in values</td>
<td>50</td>
</tr>
<tr>
<td>Revision of personal habits</td>
<td>24</td>
</tr>
<tr>
<td>Varying independence or responsibility</td>
<td>50</td>
</tr>
</tbody>
</table>

At the time of B.'s second hospitalization, he was on the verge of his eighteenth birthday, an age that marks a major rite of passage into adulthood. For many this is a stressful transition. B. also started college at this time, another 50 life-event units. That B. actually experienced stress is apparent from his description of his state of agitation during this period: "I used to get so tense, like there was another heart beating in head." Thus, training in stress-management techniques was a relevant intervention given the association between B.'s illness and stressors.
Donald Meichenbaum (1975) has argued that an important factor in the effectiveness of any treatment is the client's acceptance of the rationale behind that treatment. In addition to stress precipitating many of his hospitalizations, B. accepted the holistic rationale that stress and illness are related. His active duodinitis may have served two purposes in this regard: 1) it demonstrated to B. that he subjected his body to high levels of stress; 2) it allowed B. to learn the concepts and techniques of stress management without confronting the question of his mental illness. Surprising to most people who do not work with schizophrenics is their frequent denial of any illness. For example, the following sentence is taken from a story B. wrote about his life: "He dabbled in drugs with the influence of his girlfriend, only to have his parents find out about these drug experiences and lock him away from his friends and family" (story in appendix 1). His violent behavior and heavy usage of drugs have been unrealistically minimized. Confronting the issue of B.'s illness during the stress-education sessions proved counterproductive, and it was more acceptable to present many of the concepts in terms of his stomach problems. Focusing on his physical problems with occasional references to schizophrenia facilitated his rapid absorption of the concepts and techniques, as evidenced by his quiz scores.

Jerome Frank (1973) considers the restoration of morale as one of the primary functions of both traditional and contemporary treatments for illness. To this end, treatments need to contain
rituals which develop the patient's sense of mastery over the forces he/she perceives as assailing him/her. The explanation of schizophrenic relapse as stress-induced provided the rationale for engaging in an activity which had been a source of successful and enjoyable experiences in the past. Getting into physical shape again became a powerful healing ritual for B., reminding him of times when he had been healthy and active. These rekindled feelings added to his motivation to participate in the program and defined goals for his life in the community.

B. also actively participated in the growth and self-concept enhancement components of the holistic program. Although his I.Q. score of 91 shows him to be in the low-normal range of intelligence, he was quite curious about the materials presented in the evening sessions. His drug trips and schizophrenic episodes had produced some unusual experiences that he was quite willing to disclose and explore in discussions and art therapy.

Four factors can be seen to have affected B.'s eventual relapse: 1) his continuing use of drugs; 2) living in an emotionally-charged and critical home environment; 3) his adoption of a "sick role" while receiving Supplemental Security Income (SSI); 4) his reduction and subsequent discontinuation of medication.

In the holistic program, B.'s use of drugs was addressed during sessions which focused on drugs as stress triggers related to his previous hospitalizations. Nevertheless, he continued to use marijuana even during the program. This is not surprising since he
had participated in drug-abuse programs in the past which also failed to affect his drug-taking habits. According to Darold Treffert (1978),

patients, who are psychotic, irrespective of etiology, run the risk of relapse and exacerbation of an otherwise well-controlled illness by use of even moderate amounts of marijuana (p. 1213).

Traffort presents case examples of four schizophrenic patients whose illness was well-controlled with antipsychotic medicine but whose symptoms exacerbated after using marijuana. Other recent studies have also shown a temporal relationship between use of marijuana and the occurrence of psychotic episodes in some cases (Thacore and Shukla, 1976). Few clinicians working with schizophrenics would dispute the clinical observation that marijuana presents a clear medical hazard for many patients.

According to his parents, B. returned to his previous pattern of daily usage of marijuana in his second month at home. Most patients on SSI have a difficult time affording drugs. If they live in a board-and-care, they receive $40.00 spending money a month. If they live on their own, they receive $300.00 a month to cover the costs of an apartment, utilities, food, and all the other essentials. However, B. lived at home and his parents did not ask him to make any financial contribution towards household expenses. Thus, he had $300.00 a month to spend as he wished, which is more than most people who are working full-time and supporting themselves. In an article on SSI and the "sick role," Lamb and Rogawaski (1978) point
out that when Medicaid, food stamps, and exemption from taxes are taken into account, the standard of living of people on SSI may not be so low. Taking a job and living independently would probably have resulted in a sharp reduction of income for B. Unfortunately, the SSI system, which was designed to give psychiatrically disabled patients a dependable source of income and enable them to live outside hospitals, also has the effect of undermining the already reduced motivation of psychiatric patients to participate in rehabilitation programs:

The SSI system thus does not counteract the pull toward regression and dependency...If the recipients of SSI choose to do so, they can have the means to live an undemanding life with family or in a board-and-care home. There is little incentive to participate in a treatment program, either social or vocational (Lamb and Rogawaski, 1978, p. 1223).

B. did not engage in any form of work or rehabilitation after leaving the hospital. His days were totally unstructured and spent primarily with his friends and using drugs. As Lamb and Rogawaski (1978) point out, "Having no reason to get up in the morning, and no structured day to look forward to causes great voids in the lives of the severely mentally ill" (p. 1222).

Thus SSI, providing B. with a regular income, and B.'s parents, by allowing him to utilize the entire amount for personal use, created a situation where the contingencies were geared to maintain his sick status. By removing motivation for work or rehabilitation, SSI and B.'s parents inadvertently undermined the usual bases for a constructive, meaningful life through active participation
in the struggles of living. Without constructive alternatives, B. returned back to his previous lifestyle centered around drugs, and this led him back to the psychiatric hospital.

On the surface, B.'s parents seemed responsible and involved. They let B. return home despite some very violent episodes with him in the past, and they spent their savings obtaining help for him. However, the nature of their involvement fit a model of "overcriticalness" which has been shown to be highly associated with relapse (Vaughn and Leff, 1976). During the Camberwell Family Interview, both parents made several critical remarks about B. As discussed in the Family section of this case study, they held unrealistically high expectations for B.'s achievement. Although initially pleased with B.'s symptom-free status after participating in the holistic program, they soon expressed their dissatisfaction "with the slow process of rehabilitation." Within 9 months of returning to live at home, patients from overcritical families have a relapse rate of 53% if they remain on medication; 92% if not on medication. The stress of living at home surrounded by two overcritical though well-intentioned parents, may have been another factor contributing to B.'s eventual relapse.

B.'s condition seemed to fluctuate with his medication level, the first indication of problems in his relationship with his parents occurred 2 weeks after his doctor lowered his dosage from 400 mg of mellaril to 300 mg. After leaving the house to live with friends, B. lowered the medication level to 200 mg on his own. After 4 weeks on this dosage, his 15-week assessment showed definite deterioration in
his clinical status. The next week he discontinued medication entirely. In the nineteenth week, his condition worsened. His parents reported that he was talking to himself and the social worker rated him as "markedly ill." Two weeks later, his parents took him to an emergency room of a nearby hospital where he was given an injection of haldol, an anti-psychotic. The close temporal relationship between B.'s reduction and discontinuation of medication, and his clinical deterioration, suggests that B.'s management of his medication was a contributing factor to his eventual relapse.

Figure 7 tracks B's medication during the aftercare period.

Although initially selected as the most successful patient from the first two cohorts of patients in the holistic program, B.'s eventual relapse shows the difficulty of instituting a program in the hospital without continuity of care in the community. After participating in a holistic regimen of daily yoga, relaxation, exercise, and group sessions demanding cognitive and social activity for 9 weeks, B. achieved almost a total remission of symptoms. According to his parents and to B., he had not been in as healthy state during the previous 3 years. His symptom-free status faded as he stopped practicing holistic techniques and returned to living with his over-critical parents and to his former lifestyle centered around drugs.

Perhaps if he had returned to a program in the community where he continued to participate in a holistic treatment program, his symptom-free status could have been maintained. Another
critical issue which can also be addressed more effectively in the community is B.'s need to find vocational or other meaningful goals to add structure to his life. A community-based program can offer a person the opportunity to test out various vocational and leisure activities with the training, support, and advice of concerned professionals and peers. B. is typical of the majority of schizophrenics with multiple hospitalizations who seem unable to manage their lives independently. He responded well to holistic techniques when a program provided them for him, but could not maintain a personal program on his own. Given the severity of B.'s illness, he probably requires continuing institutional support in order to remain in the community. Currently there are no programs in the Los Angeles area which utilize holistic techniques and also provide effective vocational rehabilitation. Unfortunately, B. seems headed toward a career as a patient rotating through hospitals, jails, and unstructured board-and-care homes.
Mental Status and Behavior on Admission

J. was admitted to Camarillo State Hospital after a neighbor reported that J. attempted to rape the neighbor's wife. During the Present State Exam given soon after admission, he expressed several delusional beliefs. He stated that beings from outer space were inserting thoughts into his mind and controlling his movements. He believed his thoughts were broadcast to others and people could read his mind. He had delusions of reference regarding news bulletins. He appeared mildly depressed and he stated that his life was not going anywhere. He said he was depressed because of his inability to achieve, establish relationships, or feel pleasure. The interviewer also rated him as moderately anxious.

Psychiatric History

J. has had three prior hospitalizations totaling only 1 month. The first, in 1973 when he was 20, consisted of manic episode of excitement, grandiosity, and delusions. J. was hospitalized for 1 day. The second occurred 3 years later in 1976 when he threatened a woman
with a board with nails in it and was taken to Camarillo State Hospital for a 17 day period. The third hospitalization was 9 months later, again for bizarre and aggressive behavior combined with the development of a delusional system involving beings from outer space (see Figure 8).

According to his hospital chart, his behavior at Camarillo has included incidents of violence. The nursing staff described him as being agitated, running into walls, and picking up chairs as if to throw them. He challenged the staff to defy his power to control him and had to be placed in soft ties several times.

**Personal History**

According to his parents, J.'s childhood and adolescence were not characterized by social withdrawal, depression, or psychotic behavior. He had close friends, did well in school, and was involved with photography, guitar playing, and art. Following a breakup with a girlfriend at age 16, J. became depressed. He changed from dating and being socially active with friends at high school to spending most of his time alone. His parents arranged for him to see a psychodynamically-oriented psychiatrist, but according to his mother his behavior and level of depression did not change during the 1 year of treatment.

After graduating high school, he started college at one of the competitive University of California colleges and lived in a dorm. During his freshman year, he sought counselling for
Figure 8. Hospitalization and work history of J.
depression and cited depression as his reason for leaving college before the end of the second semester. He states he made no friends during this period. The next fall he attended a university nearer his home, but lived in the dorm.

While attending this college, he asked to be hospitalized for depression. Instead, his mother took him to see a psychiatrist who gave him medication. Despite accumulating an additional 2 years of college credits as an anthropology major, the next 3 years were punctuated by depressive and psychotic episodes. He often complained of feeling dead inside and sometimes expressed suicidal thoughts. He had many hypochondriacal concerns and often manipulated his medication by seeing more than one physician and altering dosages on his own. He went through a several month period where he did not speak, communicating only by writing notes. The pattern of difficulty concentrating, sleeping, and managing his self-care needs accompanied by belligerent and aggressive behavior, delusions, and grandiosity has recurred many times over the past 5 years, with hospitalization the result in the three most severe episodes (see Figure 8).

**Family History**

J.'s parents divorced when he was 19. J. lived with his mother, but his treatment has been a continuing source of conflict between his parents. Both parents have graduate degrees in psychology and work as counsellors. J.'s mother has viewed herself as
his therapist. They would have talks that went on for hours. At times she reported this was "very draining," but she felt it was important for him to be in close contact with someone: "I was the person he shared more with than anybody else." Over the past several years, J. visited his father and new stepmother and swam in their pool two or three times a week. His father conducted what he called "reality therapy" sessions with J. oriented toward dispelling his grandiose thinking and developing concrete career plans. On the Camberwell Family Interview, both parents were rated as low in Expressed Emotion, indicating that they did not create a hostile, over-involved or overcritical emotional atmosphere in their homes. Low Expressed Emotion home environments are more conducive to forestalling relapse (Vaughn and Leff, 1976).

During the year before this hospitalization, J. has been in much less contact with his parents. He has made threats against both of his parents which have frightened them given his unpredictability and recent incidents of violence. He has also developed the delusion that he is the real father of his father's new daughter. J.'s father and stepmother are concerned that he might kidnap their daughter and have therefore curtailed J.'s visits to their home. J.'s mother no longer permits J. to stay at her home either. J. has been very uncooperative with home maintenance routines when he has stayed there. She lives with a woman friend and the friend's children. J.'s mother and her friend were concerned that J. was developing sexual inclinations toward the mother's friend's young
adolescent daughter. However, J.'s mother has continued to try to
guide J.'s treatment. She has applied to be his conservator, which
would involve making the major decisions regarding his hospitalization
and discharge. She has been trying to enroll J. in various treatment
programs, including some which would require a considerable outlay
of money on her part. She still expresses many positive feelings
towards him.

J. has a younger brother, 23, who is a stereo salesman, and a
younger sister, 21, who attends college. According to their parents,
both are socially active and living independently. Neither have
shown indications of psychiatric illness. One of J.'s grandmothers
has been hospitalized several times during her life with a diagnosis
of manic-depression.

**Participation in the Holistic Program**

J. participated very enthusiastically in the holistic prog-
gram. He had been an anthropology major in college, and enjoyed dis-
cussing the cultural relativity of abnormality and psychosis. He
showed great interest in a chapter on a recent theory by Julian
Jaynes (1978) that hallucinated voices of the gods were part of
everyday experiences in ancient civilizations. Sensory deprivation
experiments and the experiences of arctic explorers in relation to
the schizophrenic experience were also covered during the sessions.
J. seemed to absorb the wide range of issues covered during the
program more than any of the other holistic patients.
J. also seemed to comprehend and accept the holistic rationale that stress triggers schizophrenic relapses. On his weekend home visits, he reported that he monitored his stress level, exercised, avoided street drugs including marijuana, and even stopped consuming alcohol. He said he reduced his sugar consumption and ate lots of salads during the program. On the Cooper (1978) 12-minute test of aerobic fitness, he improved from 5 laps on admission to 6.5 laps at discharge. He prided himself on being an artist and drew many pictures that attracted attention and compliments from the staff and other patients. He expressed his appreciation for the program to the treatment staff and generally got along well with the nursing staff. There were no violent or destructive behaviors requiring his being placed in the quiet room, and he was on the highest level of the token economy system by the second week of the program.

Achieving and maintaining the "credit level" requires that the patient sustain a high level of job performance, room maintenance, and self-care behaviors under his own initiative.

Results: Treatment Phase

J. showed improvement in the ratings of psychopathology shown in Figure 9. On admission to the program, the unit psychiatrist and nursing staff rated him as "mildly ill." By discharge, the psychiatrist rated him "borderline mentally ill" while the nursing staff considered him "normal, not at all ill." Both rated him improved, although the nursing staff again rated him higher, as "very much
Figure 9. Clinical Global Improvement Ratings of J.
Table 12

Clinical Global Impressions Ratings on J.

<table>
<thead>
<tr>
<th>Week</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rater</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Nursing Staff</td>
<td>3 3 2 3 3 2 1</td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td>3 3 3 3 3 2 2</td>
</tr>
</tbody>
</table>

Scale:
1 = normal
2 = borderline mentally ill
3 = mildly ill
4 = moderately ill
5 = markedly ill
6 = severely ill
7 = extremely ill
improved," whereas the psychiatrist rated him "minimally improved."

The Psychiatric Assessment Scale (PAS) score, shown in Table 13 and Figure 10 went from an initial rating of 6 to 3, although this diminution in psychopathology was present by the second week of the program. His delusions, which were rated as "moderate" on admission, were rated as absent during the rest of the program. On the Brief Psychiatric Rating Scale (BPRS), shown in Table 14, his scores for grandiosity fluctuated over the course of the program from "mild" (3) at the beginning, to "moderate" (4) 3 weeks into the program, and then declined to "not present" (1) by the end of the program. Other ratings on the BPRS showed decreases in anxiety, conceptual disorganization, hostility, suspiciousness, and unusual thought content. His total on the BPRS declined from 28 to 21.

J.'s self-report tests showed a mixed picture. On the Symptom Checklist 90, there were slight increases on most scales, and an overall increase from 55 to 67 symptoms reported as causing some distress (Figure 11). Severity of distress also increased from 1.2 to 1.7 on the 0-4 scale (Figure 12). The MMPI, however, showed declines on seven of the scales (Table 15). Pd, Pa, and Pt declined from Tscores of about 70 on the pretest, to within the normal range at posttest. Only Hy and D remained elevated above the "cut off" of 70, and both of these showed declines from their pretest levels. Thus, the MMPI indicated an improvement in subjective well-being while the SCL-90 indicated a slight worsening.

J.'s self-concept, as measured by the Tennessee Self-Concept test, did not change over the course of the program. He scored in
Table 13

Psychiatric Assessment Scale (PAS) on J.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1   2   4   6   8</td>
<td>10  4   8  12  28  38  52</td>
</tr>
<tr>
<td>Depression</td>
<td>1   0   1   2   1   1</td>
<td>0   4   0   0   0   0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>2   2   1   1   1   1</td>
<td>0   1   3   0   0   0   0</td>
</tr>
<tr>
<td>Flattened affect</td>
<td>0   0   0   0   1   1</td>
<td>0   2   0   4   0   2</td>
</tr>
<tr>
<td>Retardation</td>
<td>0   0   0   0   0   0</td>
<td>0   2   0   0   0   0</td>
</tr>
<tr>
<td>Delusions</td>
<td>2   0   0   0   0   0</td>
<td>0   1   0   4   4   4   2</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>0   0   0   0   0   0</td>
<td>0   0   0   0   0   0</td>
</tr>
<tr>
<td>Incoherence</td>
<td>1   0   0   0   1   1</td>
<td>0   1   2   2   0   2</td>
</tr>
<tr>
<td>Poverty of speech</td>
<td>0   0   0   0   0   0</td>
<td>0   0   0   0   0   0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>6   2   2   3   4   3</td>
<td>2   12  6   10  4   6</td>
</tr>
</tbody>
</table>

Scale: 0 = absent
1 = mild
2 = moderate
3 = marked
4 = severe
Figure 10. PAS ratings of J.
<table>
<thead>
<tr>
<th>Symptom</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1   2   4   6   8</td>
<td>10  4   8   12  28  38  52</td>
</tr>
<tr>
<td>Somatic concern</td>
<td>2 3 2 2 1 2 2</td>
<td>5 1 1 1 1 1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1 2 2 2 2 1 2</td>
<td>6 1 1 1 1</td>
</tr>
<tr>
<td>Emotional withdrawal</td>
<td>1 1 1 1 1 1 1 6</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td>Conceptual Disorganization</td>
<td>2 1 1 1 1 1 1 3</td>
<td>3 1 4 3 3</td>
</tr>
<tr>
<td>Guilt</td>
<td>1 1 1 1 1 1 1 2</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td>Tension</td>
<td>1 1 2 3 1 1 1 6</td>
<td>2 1 1 1</td>
</tr>
<tr>
<td>Mannerisms</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1</td>
</tr>
<tr>
<td>Grandiosity</td>
<td>3 2 4 2 1 1 2 3</td>
<td>5 5 5 5 5</td>
</tr>
<tr>
<td>Depression</td>
<td>1 1 2 3 2 2 2 3</td>
<td>1 1 1 1 1</td>
</tr>
<tr>
<td>Hostility</td>
<td>2 1 1 1 1 1 3 1</td>
<td>1 3 3</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td>2 2 2 1 1 1 1 4</td>
<td>1 3 3</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>1 1 1 1 1 1 1 1</td>
<td>1 1 1 1 1</td>
</tr>
<tr>
<td>Retardation</td>
<td>1 1 2 1 1 1 1 1 1</td>
<td>1 1 1 1 1</td>
</tr>
<tr>
<td>Impassiveness</td>
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<tr>
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<tr>
<td>Blunted affect</td>
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<tr>
<td>Excitement</td>
<td>1 1 1 1 1 1 1 4 4 4 3 3</td>
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<tr>
<td>Disorientation</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td>28 23 28 25 23 21 26 51 31 32 37 33</td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1 = not present   5 = moderately severe
2 = very mild            6 = severe
3 = mild                 7 = extremely severe
4 = moderate            
the fifty-ninth percentile at pretest and sixtieth at posttest. The Rathus Assertiveness Inventory, Subjective Anxiety and Distress, and Fear of Negative Evaluation scores also barely changed from pre- to posttest. Thus, the self-report measures present a mixed picture. Some showed declines; some showed improvements; some did not show any change.

Based on the data and observations of J.'s participation in the program and on the unit, the treatment he was receiving seemed to have helped him to achieve a socially active and goal-oriented lifestyle. He left the program with plans to find a part-time job and study photography at a competitive photography school where he had been accepted. The psychiatrist wrote the following in a letter to the Vocational Rehabilitation agency: "Patient's prognosis, particularly for maintaining employment is good... likelihood of the patient being able to hold a job and solve job-related problems is very good." His final psychiatric evaluation stated, "Patient has made a marked recovery from his psychosis, has insight into his illness, and is extremely cooperative with all treatment recommendations." The consensus of opinion among the treatment staff at the time of J.'s discharge, as well as the interviewer and observer ratings, indicated that J. left the hospital in a virtually symptom-free state. However, his own ratings, particularly on the SCL-90 continued to show distress associated with psychopathological symptoms.
Figure 11. Number of items rated positively by J. on the SCL-90
Figure 12. Positive Symptom Distress Index of J. reflecting severity of symptoms.
Table 15
MMPI Scores of B.

<table>
<thead>
<tr>
<th>Scale</th>
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</tr>
<tr>
<td>Si</td>
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</tr>
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</table>
Results: Aftercare Phase

At discharge, J. went to live in a board-and-care home at the end of July, 1978. Within 2 weeks, his mother called to indicate her concern that J. was "doing worse with less structure." He was not following through on his plans to run, do photography, or look for a job. J. told the social worker that he was having sleeping problems and difficulty in "becoming involved." He said he felt dead inside, a major complaint of his over the past few years and a common one among schizophrenics. He was down on himself for needing drugs.

Over the next few weeks there were spurts where he actively engaged in swimming, running, and photography, but he continued to complain about being unable to feel or get involved. After 4 weeks, he told his social worker that he was going to stop taking his medication. His ratings on the Psychiatric Assessment Scale in Table 13 showed maintenance of his low discharge level of symptoms up to this point. But by the fifth week, he was manifesting obvious psychopathology which was observed by the social worker during her weekly visit with him. From this point onward, J.'s condition deteriorated. He discontinued running, swimming, and trying to locate work or an educational program. He convinced his physician to change his medication from an anti-psychotic to an anti-depressant (Elavil) because "depression is my problem, not schizophrenia" (see Figure 13 for medication changes). Unfortunately, many schizophrenics have adverse reactions to anti-depressants, and one of J.'s previous hospitalizations had been triggered by a change in his medication to
ANTIPSYCHOTIC MEDICATION

Daily thorazine equivalent dosages in mg

DATE AND TIME SINCE DISCHARGE IN WEEKS

- - - irregular compliance—antipsychotic medication

+ - - irregular compliance—antidepressant medication

Figure 13. Medication adherence record of J.
an anti-depressant. The following week, J. swallowed 100 pills including a variety of neuroleptic and anti-depressants that he had been storing in the trunk of his car. He drove to a canyon, parked, and "waited for the end." To his surprise and the surprise of the doctors who subsequently treated him, he woke up the next day. J. was hospitalized for 2 weeks. He was not actively schizophrenic according to the Present State Exam interview. He did not talk about space men controlling him nor have any of the other first rank symptoms of schizophrenia. But he was rated as severely depressed and markedly anxious on the PAS (Table 13). Upon release, J.'s mother insisted that he get involved with a treatment program. He chose a sheltered workshop which put him in the company of very low functioning people. The social worker felt that he was punishing himself for his recent suicide attempt. He soon dropped out of the workshop, and neither the social worker's nor his mother's attempts to get him involved with guitar playing, exercise, or any of his other interests were successful. He cut-off communication with his social worker and apparently discontinued his medication.

One month after discontinuing communication with his social worker, J. was rehospitalized at Camarillo in a floridly psychotic state (see Figure 8). He was admitted after walking into traffic, lying down in the middle of the street, and jumping into people's cars. He stated that cars could not hurt him. He also believed he had the ability to read and control minds, and that his mind was controlled by people from outer space. There was a manic dimen-
sion to his illness. Just prior to his hospitalization, he had been staying up all night, and he spoke very rapidly during the inter-
view. He was rated as mildly excited (3) on the BPRS (Table 14), higher than at any point during the program. He reported a variety of new interests, and stated, "I'm putting out so much brilliance it unnerves people." He also claimed to be the best musician in the world, a genius, and a soon-to-be famous artist. His rating for grandiosity on the BPRS rose to a 5, "moderately severe," and concluded at that high level through the subsequent months to his most recent testing in July 1979 (Table 14).

J. then moved back to his mother's house, but was sent back to Camarillo within a day when she felt he was a threat to her friend's child who was also living with her. Although J.'s mother made attempts to place him in a noted treatment program in Northern California, these fell through. After 8 weeks of hospitalization, he was released to a board-and-care for very chronic patients which lacked any kind of a program. At his 28-week follow-up in January, 1979, he was still very symptomatic. He received a rating of 10 on the PAS, much worse than his rating of 2 at discharge. He was severely delusional and moderately incoherent.

Eight weeks later in March, I ran into J. at Camarillo State Hospital. He had just been rehospitalized. I asked him what had brought him to the hospital. He described an incident where he had asked an 8-year old girl to be his girlfriend. Someone notified the police. He then showed me a "license" he had drawn up certifying him
as a "medical psychiatrist." It was neatly written in pencil and had the traditional medical symbol of a snake entwined around a staff. "I am going to restore Dr. M.'s sight," he stated. Dr. M. was his psychiatrist while in the holistic program, and he is blind. "I am very powerful. I cured 35 schizophrenics while at the board-and-care. I also defeated a computer. It was controlling everybody. I could see it." He then bounced up from the bench we were sitting on and gave a 10-second demonstration of "Kung Fu."

J. was released after 1 month at the end of April. His whereabouts for the next 2 months were not known to his social worker. According to his mother he was living out of his car. He was brought back to Camarillo again after creating a disturbance. His most recent testing at 52 weeks since the end of the program showed him still very delusional and grandiose, and is represented on Tables 13 and 14. No plans have been made for further treatment or rehabilitation. After his testing in late July he went AWOL from the hospital.

Interview Results

I interviewed J. during his 28-week testing in January 1979, to obtain his perspective on the holistic program he had been through. The interview was interrupted often by J.'s giggling and laughing. The interview was also hampered by J.'s denial of his illness or need for hospitalization. When asked if he thought he had an illness, he stated, "No. I think I'm perfectly healthy." Asked the reason
for his previous hospitalizations, he insisted that they were "to train me to save the world." Asked what he needed to do in order to stay out of the hospital, he said, "not take my medication." When asked if he was using any of the stress-reduction techniques, he stated that he did not have any stress. The interview primarily revealed the strength of J.'s denial system and lack of insight into his illness.

J.'s delusional system elicited during the interview included a multitude of grandiose beliefs, including his having become divine, being sexually attractive to nearly all women, being in contact with beings from outer space who were helping him to become bionic, and plans to cut an album and make a movie. Asked if he was happy, he said, "Yeah, things are perfect to the last detail." Thus, despite the deterioration in J.'s clinical condition, he was not experiencing distress as a result of the re-emergence of his schizophrenic symptoms.

Discussion

According to the new criteria of the DSM III (American Psychiatric Association, 1978), J.'s illness should be diagnosed as a schizoaffective disorder. The distinguishing feature of a schizoaffective illness is the development of a depressive and/or manic syndrome that precedes or develops concurrently with the specifically schizophrenic symptoms. The development of an affective syndrome following a psychotic syndrome is very common in schizophrenia and does not seem to have the same significance.
At the time of his suicide attempt, J. did not manifest any of the core symptoms of schizophrenia but was very depressed. Within 1 month, however, he was readmitted to Camarillo with symptoms of both mania and schizophrenia. Thus, affective symptoms seem to precede and occur concurrently with his psychotic symptoms. In the past, the affective dimensions of his illness have led to his being diagnosed as manic-depressive, and he has been placed on anti-depressants and lithium. But the emergence of psychotic features to his illness over the past 2 years makes the diagnosis of schizoaffective disorder more appropriate.

According to the DSM III,

Schizoaffective Disorders are being listed separately because of the accumulated evidence that individuals with a mixture of "affective" and "schizophrenic" symptoms (as compared with individuals diagnosed as having Schizophrenia as defined in this manual) have a better prognosis, a tendency toward acute onset and resolution, more likely to recover to premorbid level of functioning, and an absence of an increase of Schizophrenia among family members as compared with the general population (American Psychiatric Association, 1978, p. DD1).

In view of his diagnosis as schizoaffective, J.'s pattern of multiple hospitalizations and continuing symptoms since discharge from the holistic program seems surprising. His prior hospitalizations totalled only 1 month, and he was able to complete 3 years of college courses. However, a critical issue in the management of a schizoaffective illness is medication, and J.'s record of drug-compliance is very poor. While living in the community, he has
consistently engaged in self-medication, varying his dosages and types of medication by seeing different physicians concurrently. Most of the time since discharge he has been off of medication (see Figure 13). In discussions with J. concerning his need for medication, he maintained that he is a fully qualified psychiatrist and can prescribe medication for himself. He once wrote his own medical license and sometimes wore a tag that said, "J. _____, M.D., Psychiatrist." He also denied having any illness, and hence the need for medication.

Van Putten, Crumpton, and Yale (1976) have compared schizophrenic patients who refuse to take drugs with patients who adhere to their medication regimens. Utilizing a sample of 29 drug-refusers and 30 drug-compliers, they found that lack of compliance could not be attributed entirely to the differential development of side effects such as sedation and extrapyramidal symptoms, paranoid diagnosis, social isolation, or severity of illness.

Rather, hard-core drug-refusers experienced (and seem to prefer) a resurgence of a grandiose psychosis shortly after they stopped their medication...The habitual compliers, in contrast, developed decompensations characterized by such dysphoric affects as depression, anxiety, virtual absence of grandiosity, and some awareness of illness (p. 1443).

A discriminant function analysis of their data showed grandiosity, as rated on the BPRS, to be the most powerful discriminating variable between the two groups with the drug-refusers averaging 3.79 on the 1 to 7 scale versus 1.23 for the drug-compliers. However, the results for depression and anxiety were reversed with the drug-
Compliers rating significantly higher. Using their data as well as their clinical impressions, Van Putten et al. (1976) suggest that, while globally improved, most of the drug-refusers resent the increased reality contact when hospitalized and on medication. As the grandiose delusions recede, the patients become more aware of their realistic lack of any life accomplishments and their loneliness, and also gain insight into their state of illness. At this point in treatment, the patients often will leave the hospital, discontinue medication, and allow their grandiose delusional systems to reappear.

J. fits this description of the drug-refuser. When psychotic, he developed grandiose delusions concerning his musical talents, athletic prowess, and mental abilities. When not actively deluded, he was usually depressed about his lack of accomplishments, his life not going anywhere, and his difficulty establishing relationships. The graph in Figure 14 shows the relationship between J.'s combined anxiety and depression scores and his grandiosity score from the BPRS. When not grandiose, such as from discharge to the eighth week after the program, his anxiety and depression scores were elevated. However, once his delusional system was in full force by week 12, depression and anxiety dropped to the lowest possible ratings, not present. The ratings remained at that low level through the subsequent 9 months while J. continued to be grandiose and delusional.

Another indication of the difference between J.'s subjective feeling of well-being versus his clinical condition can be seen from the contrast between his self-ratings of symptoms and the global
Figure 14. Relationship between ratings of dysphoric affect and grandiosity in J.'s BPRS scores
improvement ratings made by the nursing staff and his psychiatrist. Whereas the latter measures showed him as having improved considerably over the course of the program, he reported more symptomatic distress on the posttest than on the pretest. J. rated depression as having increased from 2.1 to 2.4, and anxiety from 1.0 to 1.3 on the SCL-90.

During the holistic program, J. usually appeared withdrawn, and he complained of difficulty feeling good or involved. During his rehospitalizations at Camarillo, J. often dropped by the research center. However, he did not voice these complaints or seem to be distressed or withdrawn. Rather, he was confident, full of ideas, goals, and exciting projects. He used to withdraw from social contact, for example, refusing to come on the camping trip with the other patients at the end of the treatment program. But during his delusional periods, he actively sought out relationships. He even had girlfriends, which had been one of his major concerns over the past several years.

J. seems to have chosen a psychotic, grandiose, and euphoric existence instead of engaging in the struggle to manage his illness and his life in the context of the harsh reality of his limitations and society's lack of constructive alternatives for him. Rather than allowing medication to temper his euphoria and start developing aftercare plans based on his currently limited possibilities, J. recently chose to go AWOL from the hospital. The question of values and ethics is raised when a person prefers his "craziness" to the generally accepted notions of health and reality. However, J.'s belligerent
behavior and his sexual acting out will undoubtedly land him back in the hospital or jail once again.
CHAPTER VII

MOST SUCCESSFUL SOCIAL SKILLS PATIENT: T.

Mental Status and Behavior on Admission

T. was readmitted to Camarillo State Hospital 18 days after he had been released. His mother and stepfather contacted the hospital because of T.'s increasingly agitated state and talk of suicide. Although he had been discharged, his delusional belief that he might be the anti-Christ and therefore needed to kill himself continued. His auditory hallucinations, mainly of a punitive nature, also persisted. He had taken a job right after leaving the hospital, but was unable to work. He was admitted directly to the research unit for the social skills training program which started 1 month later.

Psychiatric History

T. has had nine previous hospitalizations (see Figure 15). His first occurred in 1972 at the age of 18. After taking LSD, he destroyed his room and knocked out a sliding door. His stepfather called the police who took him to the hospital. He was released the next morning, but according to his mother, his symptoms persisted. He developed hallucinations involving Christ and also the delusion
that he was Christ. Seven months later, he had an accident with his van and the police suspected drug use. He was taken to a locked psychiatric unit maintained by the police department. He was diagnosed as schizophrenic and given neuroleptic medication for the first time. After his release, he was able to find a job and live on his own in an apartment. He became actively involved in a born-again Christian group. After 9 months, his hallucinations returned, and he became extremely anxious over whether he was "saved." His ability to work became impaired and the nurse at the factory arranged to have T. hospitalized with his permission. This pattern of periods of remission and employment, followed by increasing religious preoccupation and then development into religious delusions and hallucinations, has-recurred prior to most of his 10 hospitalizations over the past 5 years. He has held many jobs between hospitalizations including 18 months as a fork lift operator.

T.'s use of medication has been erratic. He has not maintained a drug regimen and has discontinued medication soon after leaving the hospital. He also acknowledges having used PCP, LSD, and glue, in addition to daily use of marijuana. Drug use has been a factor in several of his hospitalizations according to his mother and stepfather.

Family History

T.'s mother and father were married for 10 years. In addition to T., they had a son 3 years older than T. and a daughter 4
Figure 15. Hospitalization and work history of T.
years younger than T. Conflicts led to a divorce when T. was 7.
T.'s mother remarried two times. T.'s mother reported that T. did
not have any difficulty adjusting to the new relationships with his
stepfathers and siblings. He had friends of both sexes and per­
formed at an average level through high school despite changing
schools. However, T. began sniffing glue when he was 12, along with
an older stepbrother. T.'s mother suspects that he sniffed glue
daily until he began using marijuana and beer at age 14.

Following graduation from high school and during his mother's
second divorce, T. went to live in Arizona where he used hallucinogens including peyote and LSD. When he returned several months
later, his mother noticed that his self-care behaviors had deteri­
orated, and he began exhibiting the aggressive behaviors and reli­
gious preoccupation that culminated in his first hospitalization
shortly afterwards.

At the time of T.'s admission to Camarillo State Hospital, he
was living with his mother, a real estate agent, and stepfather, an
ironworker. Both parents were given the Camberwell Family Interview
and scored in the high expressed emotion range based on their
critical comments about T. His stepfather stated that he tried to
"knock" religion out of T.'s mind, and described him as "laying on
his dead ass doing nothing." T.'s mother made even more critical
remarks than his stepfather. She also discussed T.'s hostile be­
havior as though it occurred frequently, but all of her examples
indicated that such behavior was confined to periods when T. was
ill.
The household also contained a 21-year old son of the stepfather, a stepdaughter, 14, from the mother's second marriage, and T.'s sister, 19. According to T.'s mother, T. and his stepbrother had a very acrimonious relationship that occasionally resulted in no-holds barred fights. Although T. was physically larger than his stepbrother, he was scared of the latter's violence and unpredictability. One such fight occurred a week before T.'s admission. The stepbrother has been heavily into drugs, has a police record for burglary and assault dating from when he was 12, and has been in jail frequently as well as at Camarillo twice. The two sisters have also started to use drugs, and the parents are particularly upset given their experience with T. and his stepbrother. Constant quarreling and tension seem to have been part of the home atmosphere.

T.'s brother has resided in a born-again religious community in the midwest for the past 5 years. T.'s sister lives at home and attends college. Neither has shown signs of psychiatric illness according to T.'s mother. The only relative of T.'s known to have been hospitalized for psychiatric illness was his paternal grandfather. His diagnosis alternated between schizophrenia and neurosyphilis, and he spent many years in VA hospitals.

Participation in the Social Skills Training Program

For the first several weeks, T. complained that the program was not doing him any good. He wanted to talk about his fears of
relapsing again and his need to find out who he was. But the unit staff quickly put the former "on extinction," meaning as soon as T. brought up the subject, they would terminate the conversation. This is a behavior modification technique based on the belief that talking about fears only strengthens them by giving them reinforcement in the form of attention. His search for identity was also frustrated by the skills-training orientation of his treatment program which did not include any individual or group therapy focused on personal issues. However, by the end of the program, T. was making critical remarks about the holistic program versus the social skills training program, stating that the latter involved real work while the former was simply play and relaxation.

A major factor in changing T.'s attitude may have been the family therapy sessions. T.'s mother and stepfather as well as his father and stepmother participated in the family therapy sessions with T. The family therapy was individualized to allow each of the three families participating to focus on their unique areas of conflict. Communication, listening, and group problem-solving skills were rehearsed using actual problem areas. T. spoke positively of these sessions from the beginning of the program.

T. had difficulty getting along with the nursing staff. They did not like his turning to them for reassurance when he felt anxious. They viewed reassurance as positive reinforcement for his anxious verbalizations. They also disliked his preoccupation with religion and his frequent attempts to engage them in discussions in this area.
However, he did well on the unit's credit incentive system, staying on the credit level for most of his time on the unit. To remain on this level, he had to perform his grooming, room maintenance, and unit jobs without prompts and at a high level. There were no incidents of aggression or property destruction requiring that he be placed in the quiet room. When not in a training session, he spent much of his time playing his guitar. He got along well with the other patients and was the prime mover in organizing a camping trip at the end of the program for the participants.

Results: Treatment Phase

The measures rated by the psychiatrist showed a large reduction in psychopathology over the course of the program. Table 16 and Figure 16 show that T. was rated as "mildly ill," 3, at the beginning of the program. By the end, he was rated as "normal, not at all ill," 1. The Brief Psychiatric Rating Scale, shown in Table 17, declined from an initial score of 59 to a 27. Thought disorder, as reflected on scales of conceptual disorganization and unusual thought content, showed dramatic changes, the latter going from a 7 or "extremely severe" to a 2 or "very mild." Hallucinatory behavior, depression, and hostility all decreased 4 scale points out of 7, and anxiety decreased 3. Depression and hallucinations on the PAS went from "severe" to "moderate" over the course of the program (Table 18). PAS total declined from 18 to 10 (Figure 17).

The nursing staff's rating of severity, also in Table 16,
Table 16

Clinical Global Impressions Ratings on T.

<table>
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<th>Rater</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
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</thead>
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<td>Nursing Staff</td>
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<td>2 3 2 2</td>
</tr>
<tr>
<td>Psychiatrist</td>
<td>6 6 5 4 5 4</td>
<td>4</td>
</tr>
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</table>

1 = not ill
2 = borderline mentally ill
3 = mildly ill
4 = moderately ill
5 = markedly ill
6 = severely ill
7 = among the most extremely ill patients
Figure 16. Clinical Global Improvement Ratings of T.
Table 17. BPRS ratings on T.

<table>
<thead>
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<th>Week</th>
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<tr>
<td>Guilt</td>
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<td>3</td>
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<tr>
<td>Tension</td>
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<td>3</td>
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<td>Grandiosity</td>
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<td>6</td>
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<tr>
<td>Hostility</td>
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<td>1</td>
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<tr>
<td>Hallucinations</td>
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<td>Uncooperativeness</td>
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<tr>
<td>Unusual Thoughts</td>
<td>7</td>
<td>6</td>
</tr>
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<td>Blunted affect</td>
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<tr>
<td>Excitement</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Disorientation</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>59</td>
<td>47</td>
</tr>
</tbody>
</table>

Scale: 1 = not present            5 = moderately severe
        2 = very mild               6 = severe
        3 = mild                   7 = extremely severe
        4 = moderate
declined from "severely ill" or 6 on the 1-7 point scale, to "mildly ill" or 3. They also considered T. as "much improved" by the completion of treatment.

On the self-report measures, T. also showed many improvements. At pretest, he checked 65 of the 90 symptoms as causing him some distress. At posttest, this declined to 43 (Figure 18). The level of distress also decreased from an average of 1.7 to 1.1 on the 0-4 scale (Figure 19). Symptoms reflecting psychoticism, including several of the Schneiderian first rank symptoms, showed a major decline from 1.7 to .5 (Table 19). T. also rated symptoms related to obsessive-compulsive thoughts and impulses, depression, anxiety, paranoia, and interpersonal sensitivity as much less severe at the time of discharge. Of the 8 MMPI scales elevated above 70 on the pretest, only Pd remained elevated at discharge. Hs, Ma, Mf, Hy, D, Pt, and Sc came within the normal range by posttest (Table 20).

T.'s self-concept also improved during the program. He initially scored at the twenty-seventh percentile on the Tennessee Self-Concept Test. He scored at the forty-seventh percentile at discharge. The largest increase was on the dimension of "Family Self"—feelings of adequacy, worth, and value as a family member, which increased 26 percentile points.

In the social skills training sessions, T. learned the processing procedures quickly. In the first week, his error rate was only 6.8%. The first week was designed to be relatively easy, and his rate went up to 13% the second week. This is still an
Table 18

Psychiatric Assessment Scale Ratings on T.

<table>
<thead>
<tr>
<th>Week</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
<tr>
<td>Symptom</td>
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<tr>
<td>TOTAL</td>
<td>18 18 18 14 18 8 11 10 11 1 7 1 5</td>
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Scale: 0 = absent
1 = mild
2 = moderate
3 = marked
4 = severe
Figure 17. PAS ratings of T.
Figure 18. Number of items rated positively by T. on the SCL-90.
Figure 19. Positive Symptom Distress Index of T. reflecting severity of symptoms.
Table 19

Symptom Checklist-90 Scores of T.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
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<td>43</td>
</tr>
<tr>
<td>PSDI</td>
<td>1.7</td>
<td>1.1</td>
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</tbody>
</table>

Scale of distress:
0 = not at all
1 = a little bit
2 = moderately
3 = quite a bit
4 = extremely

GSI—General Symptom Index = \[
\frac{\text{SUM OF ALL ITEMS}}{\text{NUMBER OF ITEMS}}
\]

PST—Positive Symptom Total = No. of items rated as causing distress

PSDI—Positive Symptom Distress Index = \[
\frac{\text{SUM OF ALL ITEMS}}{\text{PST}}
\]
<table>
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<td>Si</td>
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</table>
excellent performance. The third and fourth weeks showed declines to 9% and then 7%. The fifth week, he made no errors. Data was not recorded for the peer and dating roleplays during the rest of the first program.

On the self-report measures of social skills, T. showed large improvements. No norms are available for these tests, but his Rathus Assertiveness Inventory went from -19 to +19. On the SAD and FNE, lower scores indicate greater comfort in social performance. His scores declined from 17 on the SAD to 3, and 20 on the FNE to 9.

T.'s PSE at discharge showed persistence of several schizophrenic symptoms, but at less intensity. He still had delusions of alien control and misinterpretation with regard to his hairs moving. However, he was rated as less socially impaired by his symptoms. Some symptoms present on admission, including hallucinations and thought insertion, were absent on discharge. There was an increase in neurotic symptoms such as worry, tensions, headaches, tiredness, and muscle tension. However, in many schizophrenic patients there seems to be a trade-off between neurotic and psychotic symptoms with one set increasing as the other diminishes. The PSE, as well as the other measures of psychopathology, showed considerable improvement in T.'s clinical status at the time of his release. Whereas some patients are advised not to tackle the demands of a full-time job right after discharge, T.'s psychiatrist suggested he start looking for a job right away.
Results: Aftercare Phase

Although T. has had periods of difficulty with exacerbation of symptoms, he has managed to live independently and hold down a full-time job since leaving the hospital. He has been the only person from the entire social skills/holistic program to be successful in both of these areas.

Since T. had previously lived in his own apartment, the social worker took the unusual, time-consuming action of helping him to locate an apartment. T. decided not to return to the area where his mother and stepfather lived because of his conflicts with them. However, by choosing to live near his father, T. ran into conflicts with him over monetary issues. T. wanted to purchase a car right after discharge with the social security disability payments which his father had banked for him. However, his father refused to turn these funds over to him. T.'s inability to buy a car hampered his plans to travel and take an extended vacation following discharge. Both the social worker and T.'s father put pressure on him to get a job. One month after discharge, T. enrolled in a welder training course at the local community college.

His 4-week follow-up testing showed little change from his status at discharge. His PAS increased from 10 to 11, an insignificant change (Figure 17). On the CGI, he was rated as "borderline mentally ill," a 2 on the 1-7 scale (Figure 16). This score was lower than at any previous point during the program and reflected the pattern of continuing improvement since the time of his admission.
Two months later at the 13-week testing, T. was rated as "normal, not at all mentally ill" on the CGI. His PAS dropped to a score of 1, by far his best rating. He was not scored for either delusions or hallucinations, and seemed to be virtually symptom-free.

However, T. did not take to the welding training program. Fourteen weeks after discharge, he dropped out of the program after attending only 6 weeks. But 2 weeks later he landed a job related to his great passion in life--flying. He picked up this interest from his father who owned a plane. It is an activity they have been able to share which has added the most positive dimension to their relationship. T.'s job was with a small airline which operated out of a local airport. It involved everything from loading baggage to fueling the planes. The owner and managers gave him opportunities to go on many of the flights and encouraged his plans to obtain a pilot's license.

Despite the financial and other benefits of his job, the demands also affected him. Three weeks after beginning the job (19 weeks postdischarge), he complained to the social worker that his appetite had diminished and he was having difficulty sleeping. T. also became preoccupied with his hairs moving and falling out, an early stage in the development of his delusional system involving alien forces, particularly the devil, controlling the hairs on his body. He was not scheduled for testing at this time since it was only 5 weeks after his last follow-up. Therefore, no rating of his symptoms was obtained. His social worker was very concerned and tried to persuade him to go for individual counselling.
However, he never followed through on his verbal agreements to go to the mental health center. Despite the severity of these symptoms over the next 4 weeks, T. maintained his job, performing at a high enough level to receive a 50 cent an hour raise. The owner also asked T. to accompany him on a New Year's jaunt to Las Vegas.

During a visit to his physician right after New Year's, he was told he could reduce his medication from 100 mg to 50 mg of mellaril (Figure 20). After 1 week at this dosage (24 weeks post-discharge), he reached a crisis point. He reported having vivid flashbacks of incidents from previous psychotic episodes. For the first time, he took a day off from work. He upped his daily medication from 50 mg to 200 mg and contacted his social worker at her home to discuss whether he should seek treatment in the 23-hour crisis unit operated by the county. The social worker reported to his former treatment team at Camarillo State Hospital the next day that he was probably going to need crisis treatment or even brief hospitalization. But T. resisted treatment and returned to work the next day. One week later, 9 weeks after beginning the job and 25 weeks after discharge, the severity of his symptoms declined to a level he could handle without stress.

However, T.'s conflicts with his father over money increased. Despite T.'s monthly income of $1,000.00, his father closely monitored even his telephone bills. T. became very upset after his father chewed him out for a $50.00 telephone bill, and he called the social worker at her home on a Sunday evening. He was afraid he might blow up and destroy the relationship. The social worker engaged T. in
Figure 20. Medication adherence record of T.
problem-solving. She had him generate options and evaluate them. In the end, he decided to reduce contact with his father and put the phone in his name. However, the conflicts over the funds his father had banked for him while he was in the hospital continued. His 33-week follow-up testing occurred during these conflicts and showed an overall increase on the PAS from 1 to 7 (Table 18), with anxiety, delusions, and hallucinations rated as moderate. On the self-report SCL-90, T. checked 60 symptoms as causing him distress, the highest number since discharge and close to his admission score of 65 (Figure 18). However, the intensity was only 1.3 on the 0-4 scale, close to the level indicating "a little bit" (Figure 19). His CGI rating also reflected a slight worsening, changing from "normal" at the previous testing to "borderline mentally ill" (Figure 16).

Five weeks later at the 38-week testing, his PAS and CGI scores returned to a symptom-free level. Anxiety, delusions, and hallucinations declined to a rating of absent, and he was rated as "normal, not at all mentally ill." On the SCL-90, he checked 52 symptoms as present, a decrease of eight since his last assessment. Intensity also declined slightly from 1.3 to 1.2. Since this was the major 9-month testing, T. was also given the PSE and found to be entirely free of first and second rank symptoms of schizophrenia. This shows improvement from his discharge PSE in which he was rated for several delusions. Thus, it seemed that T. learned to manage the demands of a job and the conflicts with his father well enough to experience fewer symptoms.
In the forty-sixth week, another crisis occurred which demonstrated the stability of T.'s adjustment. He was laid off his job with the airline company because of a decline in their business. The job had been the focal point of T.'s life. He was attempting to get permission from the FAA to obtain a pilot's license despite his hospitalizations, and nearly any conversation with him quickly drifted to the subject of airlines. Yet, he immediately went out searching for another job, and within 2 weeks found a job cutting sheet metal. While discouraged by the change in employment and considerable drop in salary, T. managed to weather one of the most severe crisis that can occur to a person in our work-oriented society. He was able to adapt by setting his sights lower and accepting a less fulfilling job in order to maintain his apartment and financial independence. The 49-week assessment given just after he started the new job showed a slight increase in symptomatology. His PAS increased from 1 to 5 reflecting mainly an increase in delusions from "absent" to "marked." His CGI also changed, moving to a "borderline mentally ill" level from his previous rating of "normal." Despite this minor exacerbation of symptoms, T. was still working at his new job and actively hunting for another job closer to his long-term career interests.

**Interview Results**

I interviewed T. right after his 38-week testing to obtain his views on the social skills training program. He was very positive in his evaluation, stating that "the social skills training
enabled me to sit down and think things out...to make better judgments." Much of the training was oriented toward problem-solving, and the first rule of problem-solving is to think before acting. T. learned to utilize this procedure: "if I get into a hassle or argument (I) keep myself calmed down and try to get things taken care of instead of just blowing up." In the past, T. dealt with frustration through impulsive actions, particularly extended arguing. He said he also learned "to be assertive, not to be passive or too aggressive." More ease in starting conversations was another gain he attributed to the program.

T. also had some criticisms of the program, mainly centered on the unit's policies. He felt there was "too much control. I didn't think that was necessary." He resented only being able to smoke on the half hour. The policy of not permitting patients to carry matches is unique to the research unit in order to keep control over reinforcers. He also disliked the meal monitoring procedure where the staff observed the patients while eating and administered "plate pulls" for a 1-minute duration if the patient's table manners were faulty. His other major criticism was the lack of group therapy where "people listen to what you have to say, what's on your mind, what's bugging you." These were complaints he voiced throughout the program, and he recently started individual therapy to pursue some of these felt needs.

I also asked T. how he had been able to pull through some of the rough times he had been through recently. Demonstrating
good insight, he gave credit to his strategy of increasing medication and calling up his social worker: "I increased medication to where I can't think about it, go to sleep, and after a while, I'll be OK." He strove for the minimum dosage, but knew when he was in need of a larger amount.

His use of his social worker showed a similar ability to accurately assess his needs. Although he had her home number, he did not abuse her privacy. When not in a crisis, he did not call her simply because he was lonely or depressed. When he did call her, he was open to her suggestions and to her use of problem-solving with him to help find a solution. The interview left me with the impression that T. had benefited in several concrete ways from the social skills training program.

Discussion

T.'s success in the community following his hospitalization can be attributed to three factors: 1) his adherence to medication; 2) his ability to manage crises; 3) his good premorbid status.

T. has remained on medication continuously since his discharge (Figure 20). In the past, he discontinued taking medication because of its physically fatiguing and mentally dulling side effects. However, as his interview and his compliance demonstrate, he has developed an understanding of the importance of remaining on medication. Van Putten et al. (1976) have shown that
the content of patients' delusional systems affect their drug compliance. Drug-refusers tend to have pleasant, grandiose delusions that lead them to discontinue medication when they leave the hospital. T.'s illness fits the pattern Van Putten et al. (1976) found characteristic of drug-compliers: "The drug-compliers, in contrast, developed decompensations characterized by such dysphoric affects as depression, anxiety, virtual absence of grandiosity, and some awareness of illness" (p. 1443). Despite the fact that T. received many ratings of "severe" and "marked" on the PAS for delusions, the BPRS shows that grandiosity was not a component of their content. His average rating for grandiosity was 1.2, with 11 of the 13 ratings showing absence of all grandiosity (Table 17). His delusions involved fears that the devil was possessing him, that his hairs were being controlled, that he was the anti-Christ. The affect associated with his delusions was far from the euphoria that drug-refusers experienced from their delusions. Anxiety and depression have been major factors in T.'s illness. His average rating on the PBRS for anxiety was 3.0 and for depression 2.7. At the start of his job with the airline company when T. experienced an exacerbation of symptoms, he increased his medication from 50 mg of Mellaril to 200 mg. Since discharge from the social skills program, he has utilized medication to help him cope with the struggles of living in a non-delusional reality.

To this end, he has greatly curtailed his use of street drugs, which had been a factor in several of his hospitalizations. He has
used marijuana occasionally, but has been able to moderate his usage to non-toxic levels. Drugs have not interfered with his work or social life.

The second factor in T.'s success in the community was his ability to cope with the inevitable stress of life events. T. had two major crises centered around his job in the past year. He also had many conflicts with his father over money matters. During these crises, he sought help by contacting his social worker at her home or office. During the most difficult periods, he stayed in touch with her on almost a daily basis. He discussed with her his fears that people could see he was "cracking up." After she reassured him that this was highly unlikely, he was able to return to work. He also used his social worker to engage in problem-solving regarding difficulties with his father.

The third factor contributing to T.'s success was his good premorbid status.

Strauss and Carpenter (1974) have examined the predictors of outcome for a sample of 111 schizophrenic patients. Over a 5-year period, they evaluated outcome in four areas: 1) frequency of social contacts; 2) percentage of time employed; 3) severity of symptomatology; 4) amount of time spent out of the hospital during the follow-up period. Duration of previous hospitalization was the most powerful predictor of the total outcome index formed by summing the four outcome variables ($r = .51$), and was among the most powerful predictors for each of the individual outcome variables.
Although T. has had 10 hospitalizations, none of them have been for an extended period of time. Exact times are difficult to reconstruct, but his typical hospital stay has been under 1 month with no stay longer than 3 months. He has been a revolving-door patient with the vast majority of the past 5 years spent outside of the hospital. Thus despite the number of his hospitalizations, T. has not been involved in extended-duration hospitalizations which characterize poor outcomes.

Strauss and Carpenter (1974) found that

the most powerful predictors to each outcome were the specific functions that corresponded to each outcome function. Thus a predictor of poor social relationships at follow-up was poor social relationships prior to the initial evaluation. A predictor of unemployment at follow-up was history of unemployment prior to the initial evaluation (p. 40).

Prior to his hospitalization at Camarillo, T. had held several jobs. While many patients have worked at a string of short-term jobs such as delivering pizza and being dishwashers for brief periods of days or weeks, T. had more responsible and better paying jobs. He once worked as a fork lift operator for 18 months. Although Social Security Disability was available to him because of his work history, he consistently sought and obtained employment between hospitalizations (Figure 15).

T. has done extremely well in comparison with the other patients treated in the program in terms of employment and independent living. As of July 1979, none of the other patients were both currently employed and living in their own apartment.
In the social dimension, T. joined church groups, had male friends, and also had girlfriends in the past. In the past year, T. developed dating relationships with two women, and he also developed social contacts on his job leading to his being invited on several airplaine trips.

Strauss and Carpenter's (1974) research replicated a finding of many studies that past behavior is the best predictor of future behavior. Thus, T.'s premorbid status would make a good outcome likely. His record of employment and social functioning has been strong. His 10 previous hospitalizations would not seem to bode well for his ability to stay out of the hospital. But these hospitalizations have been acute episodes from which T. quickly recuperated. Many of them had been triggered by street drugs which T. has reported he no longer abuses. Since finishing the social skills training program, T. has learned how to manage crises by increasing medication and contacting a professional for advice and help with solving problems.

While still making use of mental health services, T. has carved out a place for himself as an independent member of society. His ability to survive a year without rehospitalization while living on his own and holding down a job indicates that T. has made large gains in learning to manage his illness successfully.
LEAST SUCCESSFUL SOCIAL SKILLS TRAINING PATIENT: S.

Mental Status and Behavior on Admission

S. was referred to Camarillo State Hospital from the day-treatment program he was attending after expressing increasingly frequent and intensive thoughts of suicide. He stated that he felt like killing himself because he had no reason to live. On admission to Camarillo, he appeared agitated and depressed. During the PSE interview, he said he was depressed because he did not have any friends and was worried about the future. He reported experiencing thought blockage: "Sometimes I have a blank mind. I can't think of what I want to say." He also asked that many of the questions be repeated and took long pauses before answering.

S. maintained several delusional beliefs involving the occult, including that he was now in his second life. He expressed the belief that if he could learn the secrets of witchcraft and psychic powers, his life would greatly improve. He also had delusions of persecution involving people using the occult to scare and harm him.

Psychiatric History

S. has had three prior hospitalizations totaling 4 months over
the past 4 years (Figure 21). He has attended day-treatment programs most of the time between hospitalizations. His first hospitalization occurred in 1974 at age 21 while he was living in his room at his parents' house. He refused to come out except for meals and became preoccupied with reading about the occult and watching horror movies. He was having frequent arguments with his father, each threatening to kill the other. After this behavior continued for 21 months, his mother contacted a hospital which referred S. to a day-treatment program. However, S. dropped out of the program within a few weeks. When he started to make suicide threats, arrangements were made to have him hospitalized.

S. was hospitalized again in 1976 for 6 weeks and in 1977 for 2 weeks, again for withdrawing into his room, preoccupying himself with the occult, and expressing suicidal thoughts. Although the suicidal threats seemed to reflect genuine feelings, S. has never harmed himself. For the year and a half prior to this admission, he has been living at a board-and-care, returning home only on weekends.

Personal History

S.'s tendency to withdraw and isolate himself dates back to his early years of childhood. In the second grade, the school expressed their concern about S.'s lack of socializing and suggested to his parents that they seek professional help for him. They did but only for a few months, and S. continued through school shy and withdrawn. Following graduation from high school, S. spent a year
Figure 21. Hospitalization and work history of S.
at home without working or attending college before his parents pressured him to join the Job Corps. He spent 4 months in the Job Corps but left because he said he did not get along with the other people there. Then his parents encouraged him to enlist in the Army. After 7½ weeks, he was unable to finish basic training and was given a medical discharge. He returned home and began the 22-month period of withdrawal that led to his first hospitalization in 1974.

Family History

S.'s father is a retired carpenter. S.'s mother has not held a job since S. was born. Both are high school graduates, but neither went on to college. S. has a younger brother, 16, in high school, and a sister, 20, in college. Both live at home. S.'s parents report they are doing well in school and have won awards for achievement. S.'s parents also report that S.'s siblings are well adjusted and socially active. S.'s parents state that there has been no history of psychiatric illness in either of their families.

While S. lived at home, there were many conflicts between S. and his two siblings. According to S.'s mother, S. would hit them when angry. S.'s parents may have made their children's relationships more difficult by frequently comparing S.'s lack of accomplishment with his siblings' successes in school.

S. and his father also have a history of arguments, threats, and minor violence. The discharge summary from S.'s first hospitalization stated that the father was "near psychotic in his anger and rage at the patient believing that the patient has ruined his father's
life." During the CFI interview, he was rated as both highly critical and hostile. Hostility is not found very often on the CFI. The rating is based on his comments about S., such as, "that worthlessness of his--useless," and "very unfriendly, very selfish, very indignant." He complained about the amount of food S. ate: "Cookies...meat for sandwiches, he uses it like it was water." He does not accept the legitimacy of S.'s illness and particularly resented S.'s spending long periods of time in bed.

S.'s mother often intervened during altercations between S. and his father. S.'s father and mother have also had frequent arguments involving S. During S.'s 22-month withdrawal, the father wanted to seek treatment but the mother refused. However, since his first hospitalization, she has made the major decisions regarding S.'s treatment because S.'s father has refused to be involved. As part of the social skills training program, there was a family therapy component. S.'s father has been the only parent of the 14 patients in the social skills training program who refused to attend the sessions.

Both parents believe that S.'s illness stems from his having been hypnotized while in the Army. During his hospitalizations, his parents requested that the staff hypnotize him again to get rid of his beliefs in the occult. They are still considering sending S. to a hypnotist, and S. states that he would go. However, he has different goals, hoping that the hypnosis will help him remember all the occult secrets that he used to know but were taken away from him. His parents are intolerant of his involvement with the occult and
once removed and sold his entire library of occult books.

**Participation in the Social Skills Training Program**

S. often expressed his dislike for the daily 2-hour social skills training sessions. He said roleplaying made him nervous, and several times he vomited just prior to or following a session. At least five times he refused to attend the sessions. The staff responded to his anxiety by suggesting that the nervousness indicated he needed to practice his social skills and reassuring him that the nervousness would wear off as he practiced. It was also emphasized that these skills would help him to make friends, a goal he often expressed. But a negative contingency was also placed on his lack of participation requiring that he work cleaning up the unit during therapy sessions if he chose not to attend. The combination of re-labeling his nervousness as a sign that he needed the social skills training and the contingency placed on his attendance brought S. to 88% of the treatment sessions. His performance anxiety and social interaction anxiety seemed to continue throughout the course of training, but during the last few weeks he did not vomit prior to or following the sessions.

Although S. complained about the unit frequently, he seemed to make a positive adjustment to it. He did well on the Credit Incentive System, a token economy with five levels with varying responsibilities and rewards. S. started at the lowest level, tri-daily which involved close supervision by the nursing staff of the patient's performance on housekeeping and room maintenance chores, and
self-care behaviors. Within 6 weeks, he progressed to the highest category, credit level, where he was responsible for these behaviors with minimal supervision. However, he was unable to independently sustain the necessary level of performance to remain on the credit level, and fell to the weekly level after only 1 week. He seemed to need the additional structure provided on the weekly level including prompts to perform his unit jobs, clean his room, groom at the appropriate times, and then receive feedback from the nursing staff on his level of performance. With this structure, S. demonstrated a capacity for a high level of functioning. In fact, he was given two of the jobs requiring the most responsibility on the unit: 1) getting the food cart from the kitchen; 2) taking the nightly census report to the program office.

However, on several occasions during the course of the program, S. declared that he was "mad" and refused to fulfill any of his responsibilities. Although never violent, on these occasions he appeared very agitated, his face became red, and sometimes he tore up his credit card, refused medication and complained loudly about the unit and staff. These episodes lasted 2 or 3 days, and then S. resumed his participation in the credit incentive system.

I did not observe S. form any close relationships with other patients or staff, but he initiated many short conversations. He even seemed extroverted in his enthusiasm while approaching people. A typical conversation with me involved coming up and asking if I were married and had kids, then terminating right after my answer.
He enjoyed playing ping pong with staff and patients, and enthusiastically participated in the outings to the surrounding communities.

Results: Treatment Phase

S. did not show improvement on the ratings of psychopathology over the course of the social skills training program. His PAS score, shown in Table 21 and Figure 22 was 14 at pretest and actually rose to 16 at posttest. His BPRS scores also rose 4 points during the program. The nursing staff rated him as "mildly ill" at both the pre- and posttest. The psychiatrist also observed no change, rating him as "moderately ill" at the beginning and at the end of the program.

However, S.'s condition was not static over the course of the program. Two weeks prior to discharge, he was rated as "much improved" by both the nursing staff and the psychiatrist. Table 21 shows that his PAS dropped to 7 and ratings on depression and anxiety declined sharply. However, in the ninth week, he had a relapse back to his condition on admission. Thought disorder, as reflected on the incoherence scale of the PAS and the conceptual disorganization scale of the PBRS, was the only symptom which did not increase to the pretreatment level.

On the discharge PSE, he showed basically the same first and second rank symptoms as on admission, including thought blockage and delusions of paranormal influence. He did not have persecutory
### Table 21

Psychiatric Assessment Scale Ratings of S.

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<th>Symptom</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
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<td>2</td>
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<td>Depression</td>
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<td>Anxiety</td>
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<tr>
<td>Flatness &amp; Incongruity</td>
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<tr>
<td>Retardation</td>
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<td>3</td>
</tr>
<tr>
<td>Delusions</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Incoherence</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maritnness</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>TOTAL</td>
<td>14</td>
<td>19</td>
</tr>
</tbody>
</table>

Scale: 0 = absent  
1 = mild  
2 = moderate  
3 = marked  
4 = severe
Figure 22. PAS ratings of S.
Table 22

Clinical Global Impressions Ratings on S.

<table>
<thead>
<tr>
<th>Week</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rater</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1   3   4   5   6   7   8   9   10  16  28</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing Staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3   3   4   3   3   2   2   2   3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Psychiatrist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4   5   5   4   3   4   3   3</td>
<td></td>
</tr>
</tbody>
</table>

Scale: 1 = not ill
2 = borderline mentally ill
3 = mildly ill
4 = moderately ill
5 = markedly ill
6 = severely ill
7 = among the most extremely ill patients
Figure 23. Clinical Global Improvement Ratings of S.
delusions, but his basic delusional system involving the occult was unchanged throughout the course of the program. He was rated severe, the maximum score for delusions, throughout the program with the exception of the first week. This initial rating of moderate probably reflects the psychiatrist's lack of familiarity with the nature of S.'s delusional system and, therefore, less ability to probe for its presence. His delusional system was elicited in its complete form on the PSE given about the same time. On the discharge PSE, S. showed that his delusional system was still fully intact: "I keep on thinking about the past when I actually knew the occult. For some reason I had it taken away or couldn't keep it."

The only area which improved during the program was his level of thought disorder. On the pretest BPRS, he was initially rated as showing mild conceptual disorganization, such as confusion and irrelevant speech. At posttest, conceptual disorganization was rated as absent. On the PAS, incoherent and irrelevant speech reflecting thought disorder decreased from a rating of moderate to absent.

On the self-report measures, S. rated himself as worse at the end of the program. At discharge, he checked 50 symptoms as present on the SCL-90, eight more than on his pretest (Table 23 and Figure 24). The level of distress associated with these symptoms also rose from 1.9 or "moderate" to 2.7, closer to "quite a bit" (Figure 25). On the MMPI, four scores were elevated above 70 at pretest, and six at posttest, again reflecting increased self-perception of psychopathology (Table 24). D rose slightly, as did Pd, Pa, and Sc. Pt
Table 23
Symptom Checklist-90 Scores of S.

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Treatment Phase</th>
<th>Aftercare Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
</tr>
<tr>
<td>Somatization</td>
<td>.5</td>
<td>.6</td>
</tr>
<tr>
<td>Obsessive-Compulsive</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Interpersonal sensitivity</td>
<td>1.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Depression</td>
<td>2.2</td>
<td>3.2</td>
</tr>
<tr>
<td>Anxiety</td>
<td>.7</td>
<td>1.3</td>
</tr>
<tr>
<td>Hostility</td>
<td>.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Phobic anxiety</td>
<td>.7</td>
<td>.9</td>
</tr>
<tr>
<td>Paranoid ideation</td>
<td>0</td>
<td>1.3</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>.2</td>
<td>1.3</td>
</tr>
<tr>
<td>GSI</td>
<td>.9</td>
<td>1.5</td>
</tr>
<tr>
<td>PST</td>
<td>42</td>
<td>50</td>
</tr>
<tr>
<td>PSDI</td>
<td>1.9</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Scale of distress: 0 = not at all
1 = a little bit
2 = moderately
3 = quite a bit
4 = extremely

GSI - General Symptom Index = \( \frac{\text{Sum of all items}}{\text{No. of items}} \)

PST - Positive Symptom Total = No. of items rated as causing distress

PSDI - Positive Symptom Distress Index = \( \frac{\text{Sum of all items}}{\text{PST}} \)
Figure 24. Number of items rated positively by S. on the SCL-90
Figure 25. Positive Symptom Distress index of S. reflecting severity of symptoms.
Table 24

MMPI Scores of B.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>L</td>
<td>57</td>
<td>52</td>
</tr>
<tr>
<td>F</td>
<td>76</td>
<td>82</td>
</tr>
<tr>
<td>K</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>Hs</td>
<td>57</td>
<td>66</td>
</tr>
<tr>
<td>D</td>
<td>89</td>
<td>96</td>
</tr>
<tr>
<td>Hy</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Pd</td>
<td>80</td>
<td>93</td>
</tr>
<tr>
<td>Mf</td>
<td>58</td>
<td>54</td>
</tr>
<tr>
<td>Pa</td>
<td>68</td>
<td>71</td>
</tr>
<tr>
<td>Pt</td>
<td>69</td>
<td>83</td>
</tr>
<tr>
<td>Sc</td>
<td>75</td>
<td>84</td>
</tr>
<tr>
<td>Ma</td>
<td>58</td>
<td>58</td>
</tr>
<tr>
<td>Si</td>
<td>51</td>
<td>53</td>
</tr>
</tbody>
</table>
showed the largest increase, from a T score of 69 to 83, reflecting S.'s preoccupation with anxious thoughts.

S.'s self-concept, as assessed by the Tennessee Self-Concept test, declined from the forty-ninth percentile to the thirty-first percentile. The declines were present in all the major categories, but the largest decrease was in the area of "personal self," a measure of his sense of personal worth and value as a person. His feelings of worth and value as a family member also declined significantly over the course of the program, from the thirtieth percentile to the second percentile. His ratings of "social self," reflecting his feelings of adequacy and worth in social interactions, declined from the fifty-third to the twelfth percentile. These two declines are particularly notable because they represent the two areas, family and social skills, where the program intervened most intensively to improve functioning.

On the other self-report tests involving social skills, S. did show improvement. In the Rathus Assertiveness Inventory, he went from a very low -36 to a still low -15, and on the Subjective Anxiety and Distress scale from 24 to 17, reflecting less discomfort associated with interactions. There was a significant increase in positive social interactions from 19% the first week to 30% the last week as observed by the nursing staff in their behavioral observations made four times daily. In the actual social skills training sessions, S. showed very modest improvement in his rate of errors in answering questions concerning the roleplays. During the first 5-week segment involving instrumental scenes, he went from 16.5% incorrect answers
to 12.5%. In the second 5-week section on peer and dating scenes, his error rate decreased from 22.5% to 20.5%. In comparison with other social skills training patients, S. made few errors from the beginning. The contrast between his performance skill and performance anxiety was apparent throughout the course of the program. Nevertheless, he made some small gains in social skills as reflected on the self-report tests and session data.

Results: Aftercare Phase

Because of S.'s concern with the quality of food and his insistence on laundry service, it was difficult for the social worker to locate a board-and-care with an active program. He returned to live at home temporarily and was scheduled to attend a day-treatment program. However, he quickly resumed his pattern of refusing to come out of his room. The social worker went to his home and took him to the day-treatment center. After a week, he reluctantly moved to a board-and-care. Two weeks after discharge was his twenty-third birthday, which neither he nor his family celebrated. According to his social worker and the day-treatment staff, he was becoming very depressed. He increasingly made suicide threats. His psychiatrist reported that he made a specific threat to jump off the balcony connected to his room. The day-treatment staff along with his social worker decided he needed to be hospitalized before an upcoming 3-day weekend where he would be unsupervised. The PSE was administered while S. was in the hospital to determine whether S. had undergone an
exacerbation of schizophrenia or a depressive episode. There was no evidence of worsening of first or second rank symptoms of schizophrenia from his level at discharge, so this hospitalization was considered a post-psychotic depression.

S. was placed on a mood elevator, Elavil, during this hospitalization. He had been discharged from Camarillo State Hospital without medication because both he and his parents have negative attitudes regarding drugs, and medication did not demonstrate positive effects on his symptoms during the program. He has continued on mood elevators and anti-psychotics since his rehospitalization (see Figure 26).

After 6 weeks of hospitalization, S. was released to a rehabilitation project directed by Richard Lamb, M.D., a noted researcher in the field of community treatment for schizophrenics. The program, affiliated with the University of Southern California, focused on self-image enhancement and vocational rehabilitation during daily groups and regular contact with an assigned therapist. The project is located right next to a board-and-care home where the participants live during the 3-month program, as well as after the end of the program. While S. did not take advantage of the vocational dimension of the program, he participated in the group meetings and therapy sessions. After 6 weeks of being involved in this program (16 weeks after discharge) S.'s PAS score was identical to his discharge level of 16 and has remained approximately the same in subsequent testings (Figure 22). This score, while fairly high, seems to represent S.'s stable level of symptomatic functioning. He was
Figure 26. Medication adherence record of S.
rated "mildly ill" by the psychiatrist at this time, an improvement from the rating of "moderately ill" he received at discharge (Figure 23). At the 16-week testing, S. checked 45 symptoms on the SCL 90 as causing him distress, which is five below his score when he left Camarillo. His severity of distress associated with these symptoms dropped significantly from 2.7 at discharge to 1.6 (Figure 25).

The 28-week follow-up testing showed maintenance of his symptomatic improvement while S. continued to live at the same board-and-care. He was no longer involved in the treatment program which was limited to 3 months. His PAS declined slightly to 14 with depression improving from marked to moderate. His delusional system has continued as strongly despite improvements in other areas. It was the only symptom on his most recent PAS rated as severe. The self-report tests involving social skills remained similar to his discharge scores. The Rathus improved slightly. His SAD declined slightly, and the FNE remained exactly the same. Thus, the modest gains in social functioning noted at discharge seemed to have been maintained.

As of July 1979, S. was returning for home visits of 2-5 days usually once a month. There have been fewer conflicts reported between S. and his father. S. states that he spends most of his time at home listening to music on his younger brother's stereo, so earlier conflicts with his brother and sister also seem to have reduced some since S. has been living at the board-and-care. S. still expresses the desire to live at home, but neither his parents nor his treatment team are willing to permit that.
Interview Results

I interviewed S. right after his 16-week follow-up testing to obtain his views on the social skills training program he had participated in. The most striking aspect of the interview is how little he remembered about the program. When asked if he used any of the skills he learned during the program, he said, "I forgot what we did at Camarillo." To my question concerning what the program was supposed to help him with, he stated, "I forget that too. I have a bad memory." He stated that his problem consisted of making friends and having fun. When asked what made that difficult for him, he said he was "too shy." I asked if he had been able to use the training in conversations, but he could not recall even the morning role-playing sessions which he had particularly disliked during the program. I tried to find out if he was using some of the conversation skills he had been trained in during the program without being aware of their origin. The board-and-care he was living at has a sizeable population of young men S.'s age. However, S. has not made friends with any of them. "I'm not very close to them. I say hi to them." He does not have a particular friend to room with or go on day trips with. Thus, it appears S. is not utilizing the social skills he learned during the training program in order to develop friendships. To the question of how the program affected him, S. answered, "no change." Nothing from my observation of his situation at the board-and-care or from the interview would lead me to disagree with his evaluation of the impact the program had on his social life.
Discussion

Several recent studies have shown that certain schizophrenic patients do not benefit from intensive treatment. Goldberg, Schooler, Hogarty, and Roper (1977) conducted a study examining the effects of medication, intensive social casework, and vocational rehabilitation. They found that their therapy actually hastened the relapse of the more symptomatic chronic patients:

Given an intervention that hopes to train the patient to behave like a more responsible adult and to enlarge and enrich his cognitive field, the more symptomatic patient may be provoked into a mental state he can no longer manage, resulting in panic and exacerbation of symptoms (p. 184).

Lamb and Goertzel (1971) also found that a "high expectancy" setting involving day treatment, sheltered workshop, and movement toward independent living produced a modest improvement in level of instrumental performance, but at the expense of more frequent re-admissions to the hospital than the low expectancy setting of a board-and-care. In a later review of studies of community treatment, Lamb and Goertzel (1977) made the point that

activity which most mental health professionals, including ourselves, consider "healthy and therapeutic," may place considerable added stress on these patients...If a person has made a firm decision and opted for a life of isolation, then that is his prerogative and perhaps his need. For some, isolation and avoidance of even minimal stress may be a necessity, enabling them to remain in the community (p. 682).
S. decided not to seek any kind of employment or active treatment. He also refused to participate in the vocational rehabilitation component of both the social skills and community treatment programs. The issue of having to do his own laundry was sufficient to cause him to reject a board-and-care which met his social and leisure time needs. Freedom from responsibility and stress seem to have been S.'s priorities, even though this choice has led him to be despondent and isolated.

S. is an example of a patient who experiences intensive treatment as stressful and does not benefit from such intervention. He reacted to the social skills training program with anxiety, hostility, and frequent refusals to participate. Despite the modest gains in his performance during the roleplaying sessions, he continued to seem stressed by the demands to answer the questions and enact the scenes. In fact, he suffered an exacerbation of symptoms during the program which may have been related to the stresses of meeting the performance demands of the social skills training and the unit's token economy system. Overall, he showed no improvement in functioning or symptomatic status over the course of the program. His PAS was 2 points higher at discharge than at the beginning of the program. On the self-report tests, he indicated a significant diminution of self-esteem in the very areas of social and family self most subjected to intervention. Symptom-related distress also increased significantly over the course of the program.

Goldberg et al. (1977) suggest that intensive therapy be deferred until the patient is essentially asymptomatic. However,
S.'s level of residual symptomatology was high during the program and has remained at approximately the same high level while residing in the board-and-care. Goldberg et al. (1977) propose that it may well be that some symptomatic patients are at as low a level of severity as they will ever be...Such patients would be unlikely candidates for sociotherapy (p. 184).

While S. has not been a good subject for intensive rehabilitation, he fits the pattern which Van Putten and Spar (1979) have found to be characteristic of patients who make an adequate adjustment to board-and-care homes. Despite the impression that board-and-care homes are the main outlet for ex-patients, only 16 - 32% of persons with functional psychotic diagnoses reside in such settings (Van Putten and Spar, 1979). In their study of board-and-care residents, Van Putten and Spar found the mean BPRS ratings, shown in Table (25) are compatible with the residual state. All ratings are below 3 which represents mild symptomatology. These residents score somewhat higher on the negative symptoms of blunted affect and withdrawal (p. 462).

A comparison between S.'s BPRS ratings at discharge and the mean ratings of the 46 patients in the study is shown in Table 25. The correlation between these two sets of scores is .32. S.'s symptoms were primarily of the negative type--withdrawal, isolation, blunted affect, and depression. He did have an involved delusional system, but despite the strength of his beliefs in the occult, his overt behavior was not significantly affected. He did not become paranoid
Table 25

Correlations Between Mean BPRS Ratings of 46 Board-and-Care Residents and S.'s Discharge Scores

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Board &amp; Care Residents</th>
<th>S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Somatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concern</td>
<td>1.42</td>
<td>1</td>
</tr>
<tr>
<td>Anxiety</td>
<td>2.46</td>
<td>4</td>
</tr>
<tr>
<td>Emotional</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Withdrawal</td>
<td>2.90</td>
<td>1</td>
</tr>
<tr>
<td>Conceptual Disorganization</td>
<td>2.33</td>
<td>1</td>
</tr>
<tr>
<td>Guilt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feelings</td>
<td>1.46</td>
<td>1</td>
</tr>
<tr>
<td>Tension</td>
<td>2.86</td>
<td>3</td>
</tr>
<tr>
<td>Mannerisms</td>
<td>2.34</td>
<td>1</td>
</tr>
<tr>
<td>Grandiosity</td>
<td>1.43</td>
<td>1</td>
</tr>
<tr>
<td>Depression</td>
<td>1.78</td>
<td>4</td>
</tr>
<tr>
<td>Hostility</td>
<td>1.43</td>
<td>3</td>
</tr>
<tr>
<td>Suspiciousness</td>
<td>2.19</td>
<td>4</td>
</tr>
<tr>
<td>Hallucinations</td>
<td>2.46</td>
<td>1</td>
</tr>
<tr>
<td>Motor Retardation</td>
<td>2.02</td>
<td>3</td>
</tr>
<tr>
<td>Uncooperativeness</td>
<td>1.57</td>
<td>1</td>
</tr>
<tr>
<td>Unusual Thought Content</td>
<td>2.31</td>
<td>5</td>
</tr>
<tr>
<td>Blunted Effect</td>
<td>2.80</td>
<td>3</td>
</tr>
<tr>
<td>Excitement</td>
<td>1.33</td>
<td>1</td>
</tr>
<tr>
<td>Disorientation</td>
<td>1.07</td>
<td>1</td>
</tr>
<tr>
<td>Correlation with Board and Care Residents' Scores</td>
<td>.32</td>
<td></td>
</tr>
</tbody>
</table>
and suspicious of the other residents, nor get involved in fights. S. has made a stable adjustment to the board-and-care home. He has resided there for the past 9 months without a relapse. His level of symptomatology on the PAS and BPRS has been stable since discharge (Figure 22). At his 16 and 28-week follow-up assessments while in the board-and-care, he was rated as "mildly ill" on the CGI (Table 22), an improvement from his ratings during the social skills training program which were usually "markedly" or "moderately ill."

Although S.'s condition and adjustment seem stable, he reported that he was not satisfied with his life at the board-and-care. His most recent SCL-90, shown in Table 23, showed an increase in self-reported symptomatic distress. He still verbalized suicidal ideas, stating that if he cannot uncover the secret of life through the occult, he will kill himself. S. has been involved with two of the best treatment programs currently available to schizophrenic patients: the social skills training program based at Camarillo State Hospital, and the USC program based in the community. His medication has been carefully evaluated. It appears that the state of the art in treatment to enable patients such as S. to lead satisfactory lives has much room for research and development.
Predictions for the Holistic Patients

The first prediction was that the most successful holistic patient would have more life events preceding his hospitalizations. The data support this prediction. Prior to B.'s first hospitalization, he was in trouble with the law and the school administration. Both of these sources of conflict are rated high on Marx, Garrity, and Bower's (1975) Life Events Schedule assessing social adjustment stresses among teenagers. He also used drugs and had conflicts with his parents over this and other aspects of his lifestyle. B.'s parents were rated as high EE on the CFI interview, and interaction with high EE relatives has been found to be physiologically more stressful than interaction with low EE relatives (Tarrier, Vaughn, Lader, and Leff, 1979). B. also complained of feeling tremendously tense: "like there was another heart beating in my head."

Another example of his high level of physiological stress was his GI problems which were subsequently diagnosed as duodenitis. Pacing, agitation, and violent outbursts were all part of B.'s behavior pattern that increased as he became ill. Although no research has linked stress with these specific behaviors, they are often viewed
Table 26
Summary of Outcomes

<table>
<thead>
<tr>
<th>Program</th>
<th>B.</th>
<th>J.</th>
<th>T.</th>
<th>S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of hospitalizations*</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Mos. of hospitalization*</td>
<td>.6</td>
<td>2.7</td>
<td>0</td>
<td>1.3</td>
</tr>
<tr>
<td>Mos. on medication*</td>
<td>4</td>
<td>3.0</td>
<td>11.3</td>
<td>7.0</td>
</tr>
<tr>
<td>Mos. off medication*</td>
<td>3.5</td>
<td>8.3</td>
<td>0</td>
<td>.5</td>
</tr>
<tr>
<td>Mos. working*</td>
<td>0</td>
<td>0</td>
<td>7.0</td>
<td>0</td>
</tr>
<tr>
<td>Living environment *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in months)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With parents</td>
<td>5.4</td>
<td>1.0</td>
<td>0</td>
<td>.5</td>
</tr>
<tr>
<td>Board-and-care</td>
<td>.5</td>
<td>3.0</td>
<td>0</td>
<td>5.7</td>
</tr>
<tr>
<td>Hospital</td>
<td>.6</td>
<td>2.7</td>
<td>0</td>
<td>1.3</td>
</tr>
<tr>
<td>Own apartment</td>
<td>0</td>
<td>0</td>
<td>11.3</td>
<td>0</td>
</tr>
<tr>
<td>Unknown</td>
<td>1.0</td>
<td>4.6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PAS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Admission</td>
<td>20</td>
<td>6</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Discharge</td>
<td>1</td>
<td>3</td>
<td>10</td>
<td>16</td>
</tr>
<tr>
<td>9-mo. follow-up</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>14**</td>
</tr>
</tbody>
</table>

*since discharge
**28-week follow-up
as indications of high internal stress.

J., on the other hand, had no run-ins with the law or school administration while in school. He was not a drug-user, and there were no reports from J. or his parents about major conflicts during high school or prior to his first hospitalization. His mother, in particular, was a major supportive figure in J.'s life. His parents were rated as low EE, indicating that interactions with them were not highly stressful.

J. and his parents date the beginning of his illness from his breakup with a girlfriend when he was 16. While loss of an intimate relationship is rated as a major life change, it was not until 4 years later that J. was first hospitalized. The period of time on which life-event researchers base their ratings varies from 3 weeks to 1 year; a life change 4 years prior to a hospitalization would be too far in the past to be considered related to that hospitalization.

J.'s major complaints were not tension but depression and loss of his ability to feel emotions. Although he recently got into trouble with the law because of his belligerent and threatening behavior, he never actually destroyed property or physically hurt anyone as B.

Following the onset of their schizophrenic illnesses, it becomes difficult to relate subsequent relapses to the occurrence of life events. The major precipitating factor seems to have been discontinuation of their medication. Both B. and J. have had poor records of medication compliance. For J., medications interfered
with his delusions of special abilities and powers; for B., medication interfered with his enjoyment of street drugs and alcohol. Both have repeatedly been placed on medication while hospitalized, and then been rehospitalized shortly after discharge when they have gone off medication.

The improvement in B.'s condition during the holistic program and for 6 months afterwards in the community could have been due to the more intimate relationship between stress and the onset of relapse in schizophrenia. J.'s illness was a schizoaffective disorder which seems more subject to endogenous factors such as those which affect the mood swings in manic-depressive illnesses. No research has dealt specifically with the relationship between life-change events and schizoaffective illnesses, but environmental stressors may not play as critical a role in precipitating episodes of illness. Hence, holistic stress-reduction treatments may not be as effective in the treatment of schizoaffective illnesses as with schizophrenia.

Predictions for the Social Skills Patients

The most and least successful social skills training patients were selected on the basis of the treatment team's judgment of the patients' adjustment once in the community. The prediction to be evaluated in these case studies was that the social competence of the most successful social skills patient would improve more than that of the least successful patient during the course of the program. While this prediction was supported by the data, there were
also substantial improvements in the least successful patient's social skills. On the self-report measures of social skills, S. went from a pretest score of -36 on the Rathus Assertiveness Inventory to a -15 at posttest. His SAD dropped from 24 to 17. He also improved his performance during the social skills training sessions, going from an error rate of 16.5% to 12.5%. The nursing staff also reported an increase in positive social interactions from 19% to 30% of their behavioral observations over the course of the program. Thus, it can be stated that the social skills training achieved the goal of improving the least successful patient's level of social skills.

T.'s scores on the social skills measures both started out at a higher level and showed larger improvements over the course of the program. His Rathus went from -19 to +19, a 17-point greater increase than S.'s. T.'s SAD improved from 17 to 3, 7 points more than S.'s. During the sessions, his error rate went from an already low 6.8% to 0%. The behavior-observation system for rating social interactions was not introduced until the last 4 weeks of T.'s program. During those 4 weeks, the nursing staff reported an increase in positive social interactions from 50% to 67%. Thus, on all the measures of social competence T. started at a higher level and showed greater improvement over the course of the program.

The benefits of treatment for T. far surpassed those for S. S.'s clinical status showed no improvement during the program. In fact, his PAS showed increases on anxiety and flatness of affect. T.'s PAS showed declines on six of the eight symptom scales, and an overall decrease of 8 points. S.'s self-report tests also showed an
increase in distress due to symptoms, while T. reported declines in his level of distress. S.'s self-concept was severely diminished in the two very areas of social and family self where the program intervened most intensively. Again, T.'s self-concept improved in these areas. And the bottom line is that as of July 1979, T. was working, living independently, and satisfied with his life, while S. was living an isolated existence at a board-and-care, chronically depressed, and threatening suicide. He also required an additional hospitalization and 3-month treatment program after leaving the social skills program.

The fact that S. also showed improvements but fared far less well on all the other measures including community tenure indicates that other variables besides social competence must be taken into consideration. The motivation to use the social skills that they possessed seems to have been an important factor affecting community tenure. For example, during the interviews, T. mentioned that he used the conversational training from the program to select topics to initiate conversations. He also stated that during crises he used the problem-solving techniques he had been taught. S. seemed barely able to remember participating in the program, and he did not actively try to make use of the techniques he had learned there. By his own account, and evidenced by his lack of companions, he did not initiate conversations with the other residents of the board-and-care. It seems that in S.'s case, the overriding issue was not his knowledge of social skills, but the high anxiety level which accompanied his social interactions. This was observable even during the training
period. He vomited several times, became resistant to participating, and complained that roleplaying made him nervous. Behavioral rehearsal of social skills is supposed to decrease the anxiety associated with social interactions. However, as reviewed in the discussion section of his case study, S. is an example of a highly symptomatic patient with a very low tolerance for the additional stress involved in utilizing social skills. As a result of treatment, his level of social skills improved; however, his clinical condition deteriorated during the training process, and he does not appear to have made use of the training. The quip that, "the operation was a success, but the patient died," appears apropos in describing the use of social skills training with S.

These case studies suggest that while highly symptomatic patients can have their social skills bolstered through treatment, the results may not produce any significant benefits in other areas of their lives. However, with patients whose level of residual symptoms is low, and who are actively trying to cope with living independently, such as T., social skills training might be particularly beneficial.

Factors Affecting Outcome

Research has demonstrated that medication compliance dramatically affects rehospitalization. In a study by Davis (1975), 65% of patients off medication were rehospitalized within 2 years, while only 30% of patients taking medication were rehospitalized during the same period. In these case studies of four patients, medication compliance clearly played a role in the incidents of rehospitalization.
T. was the only patient who took medication during the entire aftercare period, and the only patient who avoided rehospitalization. S. was discharged off medication, and was rehospitalized 12 weeks afterwards. After discharge from that hospital, he was placed on medication and did not relapse during the subsequent 6 months covered in his case study. J. and B. took medication irregularly or not at all during most of the aftercare period. They both were rehospitalized after discontinuing their medication.

With the relationship between medication compliance and rehospitalization thoroughly established, why do so many schizophrenic patients go off their medication? One seldom hears of diabetics who discontinue their insulin, yet one study found that the majority of schizophrenic patients did not take their prescribed medication (Blackwell, 1972). One factor that has been shown to be related to medication compliance is the content of the patient's delusional system (Van Putten et al., 1976). While all four patients developed delusions as part of their psychoses, J.'s delusions were highly grandiose as rated on the BPRS. When psychotic, he believed he had enormous musical talent, tremendous athletic prowess, and the mental abilities of a genius. When hospitalized and on medication, his delusions faded, and he became depressed about his lack of accomplishments, his life not going anywhere, and his difficulty establishing relationships. Figure 14 shows the inverse relationship between J.'s combined anxiety and depression scores and his grandiosity score on the BPRS. His average rating on grandiosity was 3.2, whereas
anxiety and depression averaged 1.8.

T. and S., on the other hand, had delusions involving the devil and the occult respectively, which provoked anxiety and depression. S. averaged 3.5 for anxiety and depression combined, and T. averaged 2.9. Their grandiosity scores were much lower: 1.0 for S.; 1.2 for T. In order to avoid experiencing symptoms, T. and S. were willing to take medication. When symptomatic, J., however, resisted medication, and his refusal to stay on medication contributed to his further deterioration and eventual rehospitalization.

B. did not fit this pattern. His delusions were not grandiose, yet he repeatedly discontinued his medication. However, he led a very drug-oriented life, and the anti-psychotic medications reportedly interfere with the "enjoyment" of street drugs. Whereas J. refused medication in order to return to a state of delusional euphoria, B. discontinued medication in order to resume his drug-induced euphoric experiences. Unfortunately for B., both medication-abstinence and drug-usage are associated with increased likelihood of rehospitalization (Treffert, 1978).

Finding a suitable living situation seemed to be a second critical factor in the outcome of the four patients in this study. In the past year, J. and B. both resided in a multitude of settings including their parents' homes, board-and-care homes, friends' apartments and hospitals. They also existed without a residence, just wandering the streets. S. was able to adapt to a board-and-care setting. Though he maintained he was not satisfied with this placement, he remained at the same facility for over 9 months. His BPRS
profile correlated .32 (Table 25) with the BPRS ratings of 46 patients who resided in a board-and-care (Van Putten and Spar, 1979). His symptoms were primarily of the negative type—withdrawal, isolation, blunted affect, and depression. Board-and-care operators do not report difficulty tolerating such symptoms.

Both J. and B. also lived in board-and-care homes including several placements in the past year, but neither made a successful adjustment. Their correlations with the mean BPRS ratings of patients in the board-and-care homes were considerably below S.'s: -.01 in the case of J. and -.13 in the case of B. Both manifested more of the positive than negative schizophrenic symptoms on the BPRS including hostility, grandiosity, and uncooperativeness. Board-and-care operators often refuse to tolerate such behavior, and patients such as J. and B. have a difficult time maintaining a placement.

While T.'s BPRS correlation was the same as S.'s, .32, he did not reside in a board-and-care. T. found that living in his own apartment provided him with more independence and satisfaction than living in a board-and-care or with his parents. Yet his living situation was stable. He moved only once in the past year, to a larger apartment after he obtained his job.

It is interesting to note that the patient's initial expectations regarding treatment did not seem to affect outcome. Both T. and S. expressed dislike of the social skills program. Yet T. seemed to benefit from the training despite his lack of enthusiasm. Both B. and J. voiced positive opinions regarding the holistic program. But neither continued practicing stress-reduction
techniques once in the community. It may be that attitudes toward treatment are less important influences on outcome in patients with high levels of psychopathology than with less disturbed patients.

Interjudge Reliability

All four case studies were reviewed by Chris Ferris, Ph.D., a psychologist who was one of the primary therapists in the research project, and by Sandy Rappe, the social worker who maintained contact with all of the patients following their discharge. They were given copies and asked to note any differences between their observations and the accounts contained in the case studies. The only disagreement between their observations and those in the case study occurred in the case of T. The social worker reported that some of the incidents and dates surrounding the crisis which occurred at the beginning of his airline job differed from her case notes concerning the crisis. The original account had been obtained from T. The differences were not substantial. The major change was a shortening of the period of extreme symptomatic exacerbation from 6 weeks in the original case study to 1 week in the final version. The social worker's notes recorded during that period showed a milder degree of distress existing for 7 weeks with only a 1 week period of extreme difficulty, whereas T. reported retrospectively that the crisis had lasted 6 weeks. The account was changed to reflect the social worker's case notes regarding this incident. No other disagreements were noted by either Chris Ferris or Sandy Rappe. Much of the aftercare information was, in fact, obtained from Sandy Rappe's case notes.
Consensual Validity

Chris Ferris and Sandy Rappe also reviewed the interpretations contained in the case studies, and Robert Liberman, M.D., the Director of the Camarillo-NPI Research Center, read the case study involving B. In their capacity as thesis readers, three faculty members of the Psychology Department at Loyola University of Chicago also reviewed the first drafts of the case studies.

One issue emerged from the reviews of the first case study that was completed and circulated, the one concerning B. Robert Liberman referred to a "glaring omission" of information on medication compliance in the aftercare results section. Patricia Rupert, one of the thesis readers, also suggested that it "would be worthwhile to add data about medication of each patient." The revised case studies contained in this thesis reflect these concerns regarding the importance of information on medication in the evaluation of outcome in schizophrenic patients. Information on level and type of medication during the aftercare phase has been graphed for each patient (see Figures 7, 13, 20 and 26). In addition, information on medication compliance has been integrated into the aftercare section of the case studies for all four patients. By highlighting the need for this data, the reviewers prompted the exploration of issues regarding compliance that have been developed further in the final discussion section. Specifically, the role of grandiosity as a factor affecting rehospitalization could not have been addressed without the
increased attention given to the question of medication compliance. The information was available from the social worker's case notes based on her regular contacts with the patients.

No other differences in interpretation were noted. Chris Ferris stated that the case studies had tied the information together in a "coherent and illuminating manner."

Sandy Rappe had not been involved with the patients during the treatment phase, and she commented that the case studies had "rounded out" her understanding of the four patients.

Allport (1942) mentioned "subjective certainty" as one criterion for judging the validity of interpretations in case studies. While Chris Ferris and Sandy Rappe made use of this criterion in their evaluations because of their experience with the patients, the three Loyola University reviewers had no direct contact with the patients. Thus, they could not base their judgments of the validity of the case studies on their subjective certainty that the interpretations "fit" the patients. However, Allport also mentioned three criteria which could be utilized by all reviewers, even those not familiar with the subjects: internal consistency, directness of interpretation, and the value of the interpretations in illuminating the personality under study. Review of the thesis by the faculty readers involved primarily matters of form and did not involve any significant alterations of the interpretations presented in the case studies. Thus, the case studies contained in this thesis were evaluated according to Allport's (1942) criteria for determining the validity of case studies, were revised in the areas indicated
above, and now meet the criterion of "agreement of known experts," including the two reviewers who had contact with the patients, three Loyola University faculty members, and the author. Allport also suggested criteria for evaluation of the investigator's decisions for including or excluding information. This was not an issue in the present study since all available data collected for the research project of which this thesis was a part were included in these case studies.

Suggestions for Treatment Programs

Society can be held accountable for not providing alternatives for adults such as B. and J. who require a balance between structure and independence. Success seems to be an all-or-nothing affair: living in an apartment and holding a job or living in a board-and-care on Supplemental Security Income. The mentally retarded have access to programs which provide supervision and structured training in independent living skills. Unfortunately, such programs are not generally available to the schizophrenics. B. and J. showed dramatic improvements in their clinical condition while in the treatment program. They complied willingly with the holistic stress-reduction techniques while in the treatment program, but discontinued practicing the stress-reduction activities shortly after leaving the program. There is a clear need for community-based programs, perhaps half-way houses, which would encourage participation in daily exercise and relaxation sessions, provide intellectual stimulation and vocational guidance, and monitor medications. If such a
program were available to J. and B., they would probably stand a good chance of being able to live in the community and maintain the improvements they evidenced while in the holistic program.

Other types of patients have different needs for continuing care. T. managed the task of independent living with only occasional assistance from the mental health system. S.'s needs are, perhaps, the most puzzling. He did not respond positively to either the intensive approach of the social skills training program, or the non-demanding environment of the board-and-care. While he remained at the board-and-care for the last 6 months covered in the case study without being rehospitalized, he expressed dissatisfaction with his life and with the board-and-care. He was rated as depressed and still threatened to commit suicide. While he expressed his need for social contact, his anxiety in social interactions prevented him from participating in social activities. He might benefit from participation in a holistic program because the stress-reduction techniques might have a positive effect on his anxiety level. The holistic program would probably need to be designed to require less interpersonal interaction. However, whether S. would cooperate with such a program is not clear.

Future Studies

These four patients were among the first 10 to complete the holistic and social skills training programs. A total of 28 patients participated in the programs before the grant-funding ended in August 1979. The increased data-base now available will permit the use
of statistical procedures in the comparison of the holistic and social skills training programs. An upcoming doctoral thesis by the author will include an intensive analysis of the outcomes of the two of them in a variety of areas. Since the two treatments had different objectives, a thorough analysis should not be limited to the global outcome measures such as rehospitalization, relapse, and level of symptomatology. Outcomes in the specific areas targeted for improvement by the two distinct approaches should be examined, such as anxiety for the holistic program, and distress in interpersonal situations for the social skills program. The research design incorporated multi-level assessment covering a wide array of self-rated and interviewer-rated measures of symptoms and functioning in different areas. Thus, outcome can be evaluated in dimensions relevant to the different treatment goals of the two programs.

In addition, the holistic and social skills programs should be compared to the standard treatment given at Camarillo State Hospital. Since patients were not randomly assigned to a minimal or standard treatment condition, such a group would need to be carved from other research currently available. Fortunately, a related research project followed a group of patients for 9 months in the community after they received the standard treatment at Camarillo State Hospital. The data on these patients can provide some information on the effectiveness of the holistic and social skills programs in decreasing rehospitalization, relapse, and symptomatology relative to standard state hospital treatment in California.

Another study that would be valuable to conduct is the appli-
cation of holistic and social skills techniques to a community-based program. Since the ultimate goal of both programs is to train patients to use certain skills while in the community, the training should take place in the community. Generalization of both stress-reduction and social skills would probably be facilitated more by an intervention which occurred over a longer period of time (6 months to 2 years) in the patient's natural environment than by the brief (10 week) hospital-based programs in the current study. Plans are currently being developed for such a program at the Sepulveda VA in Los Angeles. The Sepulveda VA operates residential treatment homes which would provide a good environment for training in social skills and stress-reduction techniques. In addition, the experimental paradigm which demanded that the two treatments be kept separate and distinct in the current study, will not need to be maintained. Thus, the two treatments can be combined into a single program. Although the results concerning the effectiveness of the two programs will not be known until the upcoming study of the final outcomes from all 28 patients is completed, the clinical staff implementing the two programs came to feel that both treatments worked well with certain patients. The wide diversity of personality types, backgrounds, and deficiencies of the population diagnosed as schizophrenic should make a program combining both approaches a worthwhile clinical and research undertaking.
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APPENDIX A

Self-esteem exercise: Write a movie of your life

BACK HOME AGAIN

By B. (Patient's Version)

This film is about a young man, in his early twenties who leaves his island paradise to get caught up in societie's beaura-cricat mess. He goes to the mainland and tries desperately to get an education and job; only to find his parents locking him up in an institution for mental disorders. He dabbled in drugs with the influence of his girlfriend, only to have his parents find out about his drug experiences and lock him away from his friends and family.

The film takes place where he is locked in a locked facility where he is abused by his fellow inmates both physically and mentally. He is given injections and has many visual hallucinations and falls back into a state of mind where he becomes very withdrawn and uncooperative.

The second scene takes place with his family starting to relate to him and gives him a chance to live at home again. He fails again, sending him back into a hospital time and time again. Finally he flees the hospital and regains some of the money saved for him and ends up back home. An island with inner beauty and surf. The end of the movie shows him on the beach in a homemade shack with the sound of waves crashing and a rainbow reaching out to sea. At peace once again.
APPROVAL SHEET

The thesis submitted by David Lukoff has been read and approved by the following committee:

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The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

April 15, 1980

Date

Director's Signature