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EFFECTS OF SESSION FREQUENCY AND SESSION DURATION ON PROCESS AND OUTCOME IN SHORT TERM TIME-LIMITED PSYCHOTHERAPY

by

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ABSTRACT

The purpose of this study was to determine the effect of session frequency or rate, session duration and a psychotherapy marathon condition on the process and outcome of short term, time-limited psychotherapy (involving not greater than 20, one hour sessions over a period of 6 months).

In recent years, researchers in this area have been concerned with the relationship between session frequency and the quality of the psychotherapeutic outcome (Bierenbaum, Nichols & Schwartz, 1976). However, the majority of studies have confounded session frequency with the absolute number of hours of therapy received by the subjects (Cappon, 1964; Dreblatt & Weatherley, 1965; Heinicke, 1969; Imber, Frank, Nash, Stone & Bliedman, 1957; Lorion, Cowen & Kraus, 1974; Lorr, McNair, Michaux & Raskin, 1962). Further, the majority of these studies have used a variety of therapy types and different therapists for their various groups with no controls or checks for equivalence of these treatments across groups. Thus, no study, which controls for the absolute number of hours of therapy, therapists, and therapies has systematically evaluated the effect of session frequency on process and outcome in psychotherapy.

Bierenbaum et al. (1976) provide the only reported study which has

systematically attempted to assess the effect of session duration on outcome. However, numerous design flaws in this study preclude any definite conclusions. Several other authors have indicated a need for the systematic determination of the effects of session duration on psychotherapy process and outcome (Kornrich, 1965; Roth, Berenbaum & Garfield, 1969; Bach, 1966).

In order to adequately address the frequency and duration questions, the present study crossed two levels of session frequency (therapy every day vs. therapy every four days) with two levels of session duration (1 hour vs. 2 hours) in a 2 x 2 complete factorial design (Kirk, 1968). All subjects received a total of 10 hours of psychotherapy. The therapy every 4 days groups, were considered as a reasonable approximation of the traditional once-a-week course of psychotherapy. The 1 hour duration was also used to approximate the traditional psychotherapy regimen. The therapy every day groups were included as a higher frequency condition. Similarly the 2 hour duration groups were included as a comparison to the traditional 1 hour groups. A fifth marathon group received 10, almost continuous, hours of psychotherapy to determine the effect of a massed vs. the spaced regimens.

Fifty subjects (n=10) were selected on the basis of a brief pre-therapy interview. The subjects consisted primarily of individuals suffering from anxiety and/or depression.

Three process and two outcome measures were used. Past research

had indicated that the better the therapist-client relationship, the greater the amount of client self-disclosure as well as the higher the client's expectations of therapy, the better the outcome of therapy (Truax & Carkhuff, 1965, 1967; Imber et al., 1957; Strassberg, Roback, D'Antonio & Gabel, 1977). Thus, these process variables were measured throughout the course of therapy by various questionnaires in order to provide a theoretical link between the frequency and duration variables as well as the marathon condition, and the quality of the psychotherapy outcome.

Outcome measures included a structured interview (Psychiatric Status Schedule) conducted pre and post therapy and one month following therapy (follow-up). Additional outcome data was obtained with the Goal Attainment Scaling procedure which permitted measurement (pre, post, follow-up) of change in the subject's target complaints presented prior to therapy.

In order to provide a consistent, yet brief, therapeutic experience for all subjects, the therapist used a short term, time-limited psychotherapy procedure, the dimensions of which were clear (action orientation, clear goals, confrontation, etc.). In addition, two raters rated anonymous segments of audio tapes recorded during the therapy sessions to provide a check for equivalence of these dimensions across the five experimental groups.

Analysis of the data consisted of an analysis of covariance (Kirk, 1968) using the rater scores as the covariate. Results

indicated that the subject's expectations of therapy were high, they self-disclosed to a great extent, and that the therapist-client relationships were near to ideal. In addition, outcome data indicated that, by and large, all subjects improved over the course of therapy and the follow-up period, but that this change could not be directly or systematically related to the process variables nor the frequency or duration variables, nor the marathon condition. Various suggestions for future research are advanced in an attempt to explain these results. These suggestions are: (a) include a wider range of frequency and duration variables, (b) include a more heterogenous client sample as subjects, (c) manipulate the frequency and duration values in terms of the client's psychological perception of them rather than in absolute terms, (d) use multiple therapists and therapies in future frequency and duration research, (e) incorporate procedures to more accurately determine the effect of manipulating the total amount of time in which subjects are permitted to complete therapy, (f) incorporate procedures to more accurately measure the quality of the content of the psychotherapy session and its' possible interaction with session frequency and duration.

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INTRODUCTION

Inasmuch as the present study is primarily concerned with the evaluation of psychotherapy outcomes, a brief historical summary of the major problems that have beset this enormous and complex field will be outlined prior to presentation of the specifics of the present research.

Malan (1973), in an excellent review of the history of psychotherapy outcome research, points out that prior to 1950 the area was in utter confusion. That is, little of practical or, in many cases, theoretical value could be derived because of poor delination of variables and design and methodology problems. A major impetus to the field came in the form of an article by Eysenck (1952) which served as a challenge to those who believed in the value of psychotherapy in general. In his 1952 article, Eysenck presented a survey of psychotherapy outcome research. He concluded that roughly 2/3 of all neurotics improved regardless of what sort of psychotherapy they received, or whether they had received any sort of psychotherapy treatment at all.

The first major article to answer Eysenck's challenge came from Cartwright (1956). Cartwright (1956) pointed out that a major reason psychotherapy outcome studies fail to show an accurate picture of

improvement is because of deterioration effects. Deterioration effects refer to the notion that while some clients improve with treatment, some actually become worse and still others undergo little or no change at all. Cartwright (1956) pointed out that this causes the effect of treatment to wash out and leads to the false conclusion that psychotherapy does not work. The notion of deterioration was expanded by Bergin (1971) and served as a major counterpoint to Eysenck's (1952, 1960, 1965) conclusion that psychotherapy was ineffective.

In addition to Cartwright (1956) and Bergin (1971) many other investigators took exception to and challenged Eysenck's contention (Malan, 1973). Notable among these was Kellner (1965), Meltzoff and Kornrich (1970) and Luborsky, Chandler, Auerback, Cohen & Bachrach (1971). On the basis of extensive surveys of the outcome literature, and in some cases a re-examination of Eysenck's originally surveyed studies, they concluded that Eysenck used overly rigid and biased criteria to draw his conclusions as to the ineffectiveness of psychotherapy. Further, they pointed to an opposite conclusion. Both Malan (1973) and Bergin and Suinn (1975) concluded that, while the issue of psychotherapy effectiveness and thus the viability of psychotherapy outcome research is not dead, Eysenck's conclusions are highly questionable. As pointed out in Bergin & Suinn (1975), improvement rates for clients who have undergone a course of psychotherapy is approximately 67%, which is a significant improvement

when compared to untreated clients whose improvement rate is in the range of 0 to 16% (Gurman, 1973; Subotnik, 1972).

While the controversy sparked by Eysenck (1952) raged, the number of psychotherapy outcome studies increased dramatically year by year (Bergin, 1971). Perhaps in response to Eysenck's early criticisms, researchers became extremely concerned over the fact that despite prolific research on outcome, very little of practical value filtered down to the everyday clinical practitioners of psychotherapy (Luborsky et al., 1971; Strupp & Bergin, 1969). In fact, Malan (1973) points out that major researchers began to question the value of outcome research for this very reason. Despite this disillusionment, researchers continued to try and derive insight into why the results of outcome research could not be translated into reality. In general, two major causes were identified: (a) uniformity myths and the resultant lack of specificity of relevant variables, and (b) inadequate measures of psychotherapy outcome.

The uniformity myths refer to the fact that for many years psychotherapy outcome research proceeded as if all therapists, clients, and treatments were equivalent (Kiesler, 1971; Strupp & Bergin, 1969). This led to the widespread practice of assigning clients with diverse diagnoses to therapists who differed on a wide variety of personal and clinical dimensions and who practiced numerous varieties of therapy. Needless to say, such studies were

unsuccessful in delineating predictors of positive outcomes and made legitimate comparison to other studies in the field difficult (Bergin, 1971; Kiesler, 1971; Luborsky et al., 1971; Strupp & Bergin, 1969).

The solution to the problem of the uniformity myth was seen in the more adequate specification of therapists, client and treatment variables involved in psychotherapy along with their manipulation in highly rigorous and parametric research designs. More specifically, therapists variables such as degree of empathy, values, attitudes, etc. must be identified and investigated in their own right as possible facilitators of positive therapy outcome. Similarly client variables such as diagnosis, age, sex, expectancy, motivation, etc., must be investigated as well as rigorous comparisons of the essential elements of various forms of therapy. This is aptly summed up by Bergin (1971): "What are the specific effects of specific interventions by specified therapists upon specific symptoms or patient types" (P. 46).

Design adequacy and sophistication has also been cited as a necessary prerequisite to successful and relevant outcome research (Bergin, 1971; Kiesler, 1971; Strupp & Bergin, 1969). While a review of the various design types and methodologies suggested by these authors are beyond the scope of the present paper, suffice it to say that numerous investigators have insisted that successful outcome designs must primarily, (a) be parametric rather than global,

(b) permit comparison with other studies in the area, and (c) provide for the precise manipulation of specific variables to determine their effects as is the case with factorial designs (Bergin, 1971; Kiesler, 1971; Strupp & Bergin, 1979).

The second major problem which has prevented successful outcome research in the past has been the inadequacy of outcome measures. The problems here are many and complex but may be briefly summarized in three major points. First, early research typically used one or possibly two measures of outcome which was usually some form of therapist or client rating as to outcome (Goldberg, 1974; Strupp & Bergin, 1969). A major oversight in this procedure is that client change is multifactorial and not unitary. Thus, outcome measures must be extensive and sample numerous aspects of the outcome process (Kiesler, 1971; Luborsky et al., 1971; Malan, 1973, Strupp & Bergin, 1969). Second, change in a client may be behavioural and/or a more internal "dynamic" change. Thus, measures must tap both external and internal client change (Strupp & Bergin, 1969). Third, measures should be individually tailored to the specific kinds of change expected with a particular client. Along with this notion, several authors have insisted that the specific changes measured in outcome should be related to process changes in the course of therapy. This requires highly specified process measures dictated by the hypotheses and underlying theory on which the outcome study is based (Bergin, 1971; Kiesler, 1971; Luborsky et al., 1971; Malan, 1973; Strupp &

Bergin, 1969). As mentioned, early studies of psychotherapy outcome did not consider these aspects of adequate measures which accounted in large part for their inability to isolate the aspects of therapy crucial to successful outcomes.

Thus, we see that psychotherapy outcome research has had its share of problems, beginning with a controversy as to the overall worth of psychotherapy in general followed by a questioning of the relevance of outcome research to the everyday practice of psychotherapy. The state of the field today is still a matter of some dispute. However, in general it appears that most agree that psychotherapy is successful (Bergin & Suinn, 1975; Malan, 1973) and that outcome research offers much more promise of being translated into relevant heuristics to guide the practicing clinician. This has largely come about because of the precise specification and rigorous manipulation of pertinent variables as well as the more widespread use of adequate psychotherapy outcome measures (Bergin & Suinn, 1975). In the present research, an attempt was made to profit from the errors made by earlier outcome research in the hopes of deriving relevant and valid conclusions.

Time Parameters in Outcome Research

Over the past 2 decades, the effect of the various time parameters of psychotherapy on the outcome of psychotherapy have received increasing attention. Researchers were at first concerned with the

relationship between the number of hours of therapy received and outcome judged as either positive or negative by the client, therapist, or both. However, it became increasingly obvious to investigators in the area that the greater the number of hours of therapy received by a client the better the outcome (Luborsky, Chandler, Auerback, Cohen & Bachrach, 1971). In more recent years, researchers have recognized the importance of the relationship between a second time parameter, session frequency or rate, and outcome (Bach, 1966; Barten, 1965; Bierenbaum, Nichols & Schwartz, 1976; Cappon, 1964; Frank, 1965; Heinicke, 1969; Imber, Frank, Nash, Stone & Bliedman, 1957; Kornrich, 1965; Lorion, Cowen & Kraus, 1974; Lorr, McNair, Michaux & Raskin, 1962; Luborsky, Chandler, Auerback, Cohen & Bachrach, 1971; McNair, Lorr, Young, Roth & Boyd, 1964; Muench, 1965; Muench & Schumacher, 1968; Roth, Berenbaum & Garfield, 1969; Shlien, 1957; Spoerl, 1975; Stewart & Cole, 1968). Unfortunately, the majority of empirical investigations of the rate variable have hopelessly confounded therapy rate with the total amount of therapy hours received and in addition have been confined to investigating a limited range of low session rates (less than three sessions per week) (Bierenbaum et al., 1976; Cappon, 1964; Imber et al., 1957; Lorion et al., 1974; Lorr et al., 1962; McNair et al., 1964). A third time parameter of psychotherapy, individual session length or duration, has not been adequately investigated despite its recognized importance (Bach, 1966; Barten, 1965; Bierenbaum et al., 1976; Feldman, Lorr & Russell, 1958; Goldfarb

& Turner, 1953; Koegler, Brill, Epstein & Forgy, 1964; Kornrich, 1965; Loch, 1972; Lorr et al., 1962; Roth et al., 1969; Spoerl, 1975; Stewart & Cole, 1968).

In addition to the omissions and problems already mentioned, research on the time parameters of psychotherapy has concentrated almost exclusively on pre-post comparisons of therapy clients. Thus, while some vague notions of the effect of time parameters on therapy outcome have been developed, no information has been derived as to how these time parameters affect the process of psychotherapy. Kiesler (1971) has argued that valid investigations of psychotherapy require that both process and outcome be considered. Essentially his argument is that we cannot hope to fully interpret outcome data without knowing how the variables manipulated in the study affected the clients during the study. Similarly we cannot interpret on-going client changes which occurred over the course of the study without knowing the eventual outcomes.

In the present study, two levels of session frequency and two levels of session duration were factorially combined, with all clients receiving the same total number of hours of therapy. In this way, the main effects of the rate and duration variables may be systematically determined. A number of dependent measures were obtained. With respect to the process of the therapy, information as to the client's positive or negative expectations of the therapeutic procedure were obtained by a brief expectation questionnaire. The degree of client

self-disclosure in therapy was measured by the Jourard Self-Disclosure Inventory (Jourard & Lasakow, 1958). The quality of the therapist-client relationship was measured by the Barrett-Lennard Relationship Inventory (Barrett-Lennard, 1962).

With respect to the outcome of the therapy process, dependent measures were obtained from the Psychiatric Status Schedule (PSS), which is a standardized interview technique designed to evaluate a client's overall mental health by means of symptom and role functioning measurement scales. In addition, outcome was measured by the Goal Attainment Scaling (GAS) method, which is a client-specific goal setting format used to establish and measure progress toward predicted levels of therapy outcome (Kiresuk & Sherman, 1968).

Relevant Literature

The methodology of the present research demands using short term intentionally time-limited (STTL) psychotherapy, thus its history, techniques and present status will be discussed. This will be followed by a review of individual psychotherapy outcome studies which have investigated or discussed session frequency and intersession interval or session duration. Investigations as to the effect of these time parameters on therapy process as opposed to outcome have not been carried out so cannot be included here. However, in a later section, the link between the time parameters of therapy, psychotherapy process,

and therapy outcome will be advanced on the basis of time parameter and other past research.

For present purposes STTL psychotherapy will be defined as involving not greater than 20, 1 hour sessions conducted over a period of not greater than 6 months. Long term time intentionally unlimited (LTTU) psychotherapy is to be construed as involving greater than 20, 1 hour sessions, spread out over a period of greater than 6 months (Stewart & Cole, 1968).

Short Term-Time Limited Psychotherapy

History. The beginning of STTL therapy can be traced to Otto Rank and Jessie Taft (Muench & Schumacher, 1968; Shlien, 1957; Shlien, Mosak & Dreikurs, 1962; Strean & Blatt, 1969). Otto Rank (1936, 1945) introduced the notion of end-setting in therapy as a means of mobilizing the patient to use the power of their will to overcome their neurotic conflicts. End-setting involved telling the client prior to therapy the number and length of the sessions they would receive. However, as pointed out by Shlien (1957), time limits did not have a special status in Rank's system: Rank felt he could accomplish the same end by refusing to allow the patient sex or favored foods. All of these restrictions represented a challenge to, and subsequent mobilization of, the will. Taft (1933) expanded the end-setting notion by emphasizing quality vs. quantity in therapy by pointing out that, if the patient can gain no self-understanding in

a few interviews, many more interviews will not improve the final outcome of psychotherapy (Shlien, 1957). Thus, her emphasis was toward a shorter course of therapy. This was expanded by Adler (1956, 1964), who is regarded by many as the father of STTL psychotherapy. Adler stressed the importance of setting time limits, maintaining a goal-directed action orientation, early formulation of a treatment plan, as well as convincing the patient that their problems would be resolved by therapy. Today, the areas outlined by Adler are main components of STTL psychotherapy (Ansbacher, 1972).

Historically, the popularity of Adler's theoretical and practical guidelines came in the early 1960's with the advent of the community mental health concepts. This movement proposed that psychotherapy should be accessible to all who apply despite their overwhelming numbers. Short term time-limited therapies gained tremendous appeal and have continued to grow in popularity to the present day (Ansbacher, 1972; Muench et al., 1968).

Techniques. In contrast to LTTU psychotherapy, there is wide agreement on the methods and techniques used in STTL therapy (Rosenthal & Levine, 1971). First, it is essential that the time limited nature of the therapy be understood by the client. The termination date, frequency, duration and number of sessions must be clearly explained. This motivates the client to work on problem areas from the very beginning of therapy (Cohen, 1969; Cox, 1972; Deykin, Weissman, Tanner & Prusoff, 1975; Garner, 1970; Oxley, 1973; Proskauer,

1969, 1971; Rosenberg, 1975; Rosenthal & Levine, 1971). Second, rapport with the client must be quickly established due to the time restrictions. The relationship must be open and honest (Bonstedt, 1970; Borline, 1970; Cohen, 1959; Proskauer, 1971; Rosenberg, 1972; Rosenthal et al., 1971; Wolberg, 1965). Third, the therapist must formulate a goal oriented treatment plan early in therapy and focus on these goals throughout (Bonstedt, 1970; Borline, 1970, Cox, 1971; Frank, 1965; Ford & Urban, 1967; Leibovich, 1974; Oxley, 1973; Proskauer 1969, 1971; Rosenberg, 1975; Rosenthal et al., 1971). Fourth, it must be made clear to clients that they must play an active role in solving their problems (Borlin, 1970; Cohen, 1969; Ford, et al., 1967; Kusnetzoff, 1974; McGuire & Sifneos, 1970; Proskauer, 1971; Rosenberg, 1972; Wolberg, 1965). Fifth, the therapist must also take an active role in therapy. The therapist must be open at all times, use confrontation rather than interpretation and risk communication in emotionally charged areas in order to hasten therapy (Bonstedt, 1970; Borlin, 1970; Cohen, 1969; DeLaTorre, 1972; Oxley, 1973; Rosenberg, 1975; Rosenthal et al., 1971). Sixth, it is extremely important that the therapist encourage the client to expect a favorable outcome of therapy (Barten, 1972; Borline, 1970; Cohen, 1969; Frank, 1974; Rosenberg, 1975). A seventh and final technique concerns the minute-to-minute interaction in therapy. The therapist must maintain an emphasis on present rather than past problems. This necessitates relating more to concrete, current

problems rather than complex intrapsychic materials (Bonstedt, 1970; Cohen, 1969; DeLaTorre, 1972; Frank, 1965; Gendlin & Rychlack, 1970; Rosenberg, 1975; Suess, 1972).

Present Status. Judging from the literature, there is little doubt that STTL psychotherapy produces positive outcomes. In an extensive review of 166 long and short term individual psychotherapy studies with adult patients, Luborsky et al. (1971) concluded that STTL therapy does as well as LTTU. This conclusion has been extensively supported by later researchers (Frank, 1974; Paterson & O'Sullivan, 1974; Rosenthal, et al., 1971; Spoerl, 1975; Marmor, 1979). Other investigators have advanced an even stronger conclusion that STTL therapy is superior to LTTU therapy (Gendlin et al., 1971; Hare, 1966; Koegler, Brill, Epstein & Forgy, 1974; Muench, 1965; Shlien, 1957, 1964; Cummings, 1977).

In addition to variable evidence from psychotherapy outcome studies, STTL therapy is cheaper than LTTU psychotherapy. Short duration therapy aids tremendously in balancing the overwhelming demand for service with the limited supply of therapists (Shlien, 1957; Saccuzzo, 1977). Also, the shorter treatment time involved reduces the number of therapy dropouts (Straker, 1966; Cummings, 1977). Finally, the time-limited nature of the STTL method is believed by many investigators to produce heightened motivation and therapeutic activity by both the therapist and the client (Rosenthal et al., 1971; Shlien et al., 1962).

In conclusion, it appears that STTL therapy is an effective and efficient method which is being put to increased use. In some cases, particularly with the less severe and protracted psychiatric disorders, it is the preferred mode of treatment (Lemere, 1968; Sifnoes, 1967; Swenson & Martin, 1976).

Psychotherapy Session Frequency

Studies which have investigated the relationship between session frequency or rate and therapy outcome can be divided into two non-exclusive groups: high frequency studies, which have included relatively high session rates (three or more sessions per week), and low frequency studies, which have used lower rates (three or less sessions per week). Some researchers have viewed three sessions per week as high frequency while others have viewed three sessions as low frequency.

High Frequency Studies. Roth, Berenbaum and Garfield (1969) maximized session frequency by providing 10 hours of continuous STTL individual psychotherapy to a single subject. An Ideal Q-Sort and a self-administered Thematic Apperception Test (TAT) were given before and after therapy. Change scores indicated that the subject underwent changes in the direction of greater mental health. These changes were maintained at least 8 weeks after the completion of therapy. Despite the use of only one subject and the lack of a nontreatment control subject or group, the authors suggest on the basis of their study that psychotherapy given at a high rate may be more conducive to positive

outcomes. This conclusion may in fact be valid but the design and methodological problems present preclude such a conclusion.

Heinicke (1969) carried out a LTTU study with 6 to 10 year old boys referred for learning disturbances associated with psychological difficulties. Two groups of four boys each were formed. Prior to therapy it was determined that the boys: (a) ranged in age between 6 and 10 years, (b) were referred for a learning disturbance associated with psychological difficulties, (c) had been or were about to be held back in school, (d) were unable to profit from supplemental education help, (e) achieved a Stanford-Binet IQ of 90 or better, (f) came from intact business or professional families, and (g) were in treatment from 1 1/2 to 2 1/2 years. After random assignment, one group of boys was seen once a week, while the other group as seen four times a week, with both groups in psychoanalytic psychotherapy. Multiple assessments of each subject were carried out before and immediately after therapy. Measurements were repeated 1 and 2 years after the completion of therapy. The assessments consisted of interview data gathered from parents and teachers, data from the therapy sessions and extensive test data (Stanford-Binet Form L, Wide Range Achievement Test, Rorschach, TAT, Michigan Picture Test and a draw-a-person test). Tests of statistical significance between groups were carried out on the data derived from the above measures. Results indicated no reliable group differences on group mean ratings prior to therapy. A reliable difference found immediately after therapy indi-

cated children seen four times a week were better adjusted than the once-a-week group. This superiority was maintained at the first follow-up 1 year later. The high rate group also showed a reliably higher level of ego integration, ego flexibility, and a better developed capacity to form peer relationships at the second follow-up 2 years later. Additional data indicated that the high frequency group improved at a faster rate in school-related tasks such as spelling, reading and vocabulary. The author concludes that the children seen more frequently were better adjusted at the end of therapy. However, since he allowed both session rate and the absolute number of sessions to vary simultaneously, the conclusion is not warranted.

Dreblatt & Weatherly (1965) carried out a study involving 44 newly hospitalized patients diagnosed as psychotic, neurotic or character disorders. Patients were randomly assigned to three groups and were seen for 2 weeks in STTL therapy. One group received three staff contacts a week. The second group received six similar contacts a week. The third group, a control, received only regular ward routine. The contacts consisted of brief, 5 to 10 minute, informal conversations on the ward with the staff psychologist. The dependent measures used were pre-post changes in self-esteem, changes in self-reported anxiety, and length of hospitalization. Self-esteem was measured by a Q-sort technique and the Welsh A Scale was used to measure anxiety. Results indicated that the high frequency contact

group was reliably superior to the low frequency and control groups with respect to increases in self-esteem and decreases in self-reported anxiety. However, as with Heinicke (1969), these authors confounded rate of sessions with absolute number of sessions received, thus seriously limiting any conclusions as to the effect of the frequency variable.

Low Frequency Studies. Imber et al., (1957) studied 54 patients diagnosed as neurotic or personality disorders. They were randomly assigned to one of three treatment groups, each led by a different therapist. Group 1 received analytically oriented group therapy once a week for 1 1/2 hours. Group 2 received analytically oriented individual therapy once a week for 1 hour. Group 3 patients received minimal contact therapy for 1/2 hour every 2 weeks. All three groups received therapy at their assigned rate for 6 months. The dependent measure was derived from 15 categories of data relating to the social effectiveness of the patient obtained prior to and at the completion of therapy from interviews with the patient and from an individual identified as a close friend of the patient. The ratings for all 15 categories were summed for each group and served as the dependent measure in the analysis of variance. On the basis of this analysis, the authors falsely concluded that the patient's final level of interpersonal effectiveness was an increasing function of the frequency of therapeutic contact. Confounding of rate, session duration and total number of sessions precludes such a conclusion.

Lorr et al., (1962) studied 133 male veterans with service related psychiatric problems. They were randomly assigned to one of three groups at one of seven different outpatient clinics and received Rogerian, Psychoanalytic or Sullivanian individual psychotherapy. Each patient received 1 hour of therapy either twice a week, once a week or bi-weekly. Seventy-five therapists participated in the study and all were regarded by their clinic as competent to conduct intensive individual psychotherapy. Outcome data was obtained from 10 criteria derived from judgments of the therapist, patient self reports and a variety of test data (Taylor Manifest Anxiety Scale, Barron Ego-Strength Scale, Guilford-Zimmerman Temperament Survey, the Interpersonal Checklist and a symptom check list). An analysis of covariance was used to reduce the inequality of treatment groups prior to the treatment. The control variables included were age, education, annual income, occupation, vocabulary scores, behaviour disturbance score and word fluency test score. Analysis of variance on outcome scores after 4 and 8 months of therapy indicated there were no reliable differences in outcome among the groups as a function of the treatment frequencies used. Further support for these findings is provided by McNair et al. (1965), who followed up the original patients 3 years after the completion of therapy. These authors concluded that while statistically significant positive relationships were found between the number of treatments received and positive outcomes, there was no reliable outcome effect attributable to the rate of treatment. However, as with previously

reviewed studies, rate and absolute number of sessions were confounded in their design.

Cappon (1964) also used a confounded design and drew similar invalid conclusions with respect to the frequency variable. He collected data from 160 patients who underwent individual psychoanalytically oriented psychotherapy with a number of therapists between 1955 and 1960. The patients covered several diagnostic categories including neurotics, psychopathic personalities, psychosomatic reactions and psychosis. A variety of outcome measures were taken at several points during and at the completion of therapy. These included therapist and independent observer ratings of the patient's improvement, as well as self ratings of improvement. Cappon concluded, that in terms of patient improvement, a session frequency of less than once a week was inferior to once or twice-weekly sessions.

Lorion, Cowen & Kraus (1974) conducted a study not strictly concerned with professionally administered psychotherapy but rather with the effects of session frequency on outcome of paraprofessional helping programs. Specifically, 171 elementary school children referred for psychologically based school problems were subjects. The children were randomly divided into three groups and were seen once, twice or three times a week by paraprofessional child aides trained to conduct low-level therapy in individual sessions. A variety of outcome measures were used, administered prior to treatment and at the end of the school year. The measures consisted of

teacher, child aide and subject adaptation problems. Results indicated no systematic differences in treatment outcome as a function of session frequency. However, session frequency was confounded with absolute number of sessions as in previous research.

Bierenbaum, Nichols & Schwartz (1976) conducted a study which attempted to determine the effect of varying session frequency and duration on the amount of emotional catharsis observed during therapy and the eventual outcome of therapy. Three groups of subjects who applied for therapy at a university health service were used. One group was seen for 1/2 hour twice a week, one was seen for 1 hour once a week and the third group was seen for 2 hours every other week. All subjects were assigned to a group on a non-random basis. The total amount of therapy hours received by each subject varied from a minimum of 4 hours to a maximum of 10 hours. Therapy was carried out by three experienced therapists, with checks provided to insure the equivalence of technique across the three therapists. A form of emotive psychotherapy was used wherein the subjects were encouraged to directly express their feelings rather than merely discuss them. Outcome was assessed with a pre-post procedure using the sum of the Minnesota Multiphasic Personality Inventory (MMPI) scales D, Pf and Sc, a personal satisfaction measure and the behavioral target complaints measure.

Results indicated that the 1 hour group demonstrated more catharsis than the other two groups and showed a statistically reliable

greater degree of personal satisfaction and reduction in behavioral target complaints. The 1/2 hour group demonstrated the lowest degree of emotional catharsis but showed the greatest reduction on the MMPI scales. The 2 hour group demonstrated an intermediate degree of catharsis and was generally inferior to the other two groups on the three outcome measures. These findings suggest that more frequent and/or shorter sessions are more conducive to better outcomes than longer less frequent sessions. However, serious design and methodological flaws present in the study call such a conclusion into question. First, the authors point out that subjects were not randomly assigned to the various groups which could have allowed for a systematic bias in the study. Further, the subjects consisted of two samples drawn in two separate years which places outcome differences on less firm ground. In addition, while 39 subjects started in the study only 19 finished, which calls into question the degree to which the assumptions of the analysis of variance were violated. Of more direct relevance to the present paper is the fact that the absolute number of hours of therapy was allowed to vary from subject to subject within the range of 4 to 10 hours, thus confounding the relationship between session frequency and duration and the amount of therapy received. Along the same lines, since frequency and session duration were not factorially combined, their effects on outcome cannot be independently assessed.

Summary-Psychotherapy Session Frequency Studies. The literature

has indicated the importance of determining the effect of session frequency on the outcome of psychotherapy (Saccuzzo, 1977; Strassberg, Cunningham, Anchor & Elkins, 1977). However the majority of past studies which have attempted to evaluate the effect of session rate on outcome suffer from serious methodological and design flaws which limit their interpretation. With the exception of Roth et al. (1969), all the studies have attempted to draw conclusions as to the effect of session rate despite the fact that rate was confounded with the absolute number of hours of therapy received by the subjects (Cappon, 1964; Dreblatt et al., 1964; Heinicke, 1969; Imber et al., 1957; Lorion et al., 1974; Lorr et al., 1962). Further, with the exception of Roth et al., (1969), Dreblatt et al. (1965) and Bierenbaum, et al., (1976), these studies have used a variety of therapy types and different therapists for their groups with no controls or checks for equivalence of these treatments across groups. More importantly, despite the conclusions advanced by these studies as to the effect of the session frequency variable, no study which controls for the absolute number of hours of therapy, therapists, and therapies has systematically attempted to evaluate the effect of session rate on psychotherapy outcome. Such a study is included in the present research.

Psychotherapy Session Duration

Bierenbaum, Nichols & Schwartz (1976) provide the only study cited in the psychotherapy literature which has systematically attempted to

assess the effect of session duration on outcome. As was outlined previously, three groups of subjects were used. One group received a 1/2 hour session twice a week, one received a 1 hour session once a week and the third group received a 2 hour session every other week. While results suggested that subjects receiving the shorter session durations did the best in terms of outcome, the conclusion is highly questionable because of design flaws contained in the study. Most importantly, the subjects did not receive an equivalent total number of hours of therapy; and, in addition, the effects of frequency and duration could not be separately determined. In short, the absolute number of hours of therapy, the frequency of sessions and session duration were confounded, thus precluding any definite conclusions as to the effects of session duration on outcome.

Despite the lack of systematic research on the session duration variable, a number of articles have mentioned the importance of this variable. Stewart and Cole (1968), in a review of STTL therapy studies, point out that there never has been any clear-cut standard as to how long a session should last. Their survey revealed that by convention the majority of therapists conduct 1 hour sessions. These findings are in agreement with an earlier survey by Feldman, Lorr and Russell (1948), who found that the average session length across 63 Veterans Administration Mental Hygiene Clinics was 47 minutes.

Sessions shorter than 1 hour have been dictated by considerations other than psychotherapy. For example, Goldfarb & Sheps (1954) found

that 15 minute sessions, which provided primarily emotional support, worked best with geriatrics because of their short attention span. Barten (1965) and Koegler et al. (1964) advocate 15 and 20 minute sessions, respectively, in order to give outpatients emotional support but mainly to provide a check on their psychotropic medications. Dreblatt & Weatherley (1965) used 5 to 10 minute sessions with hospitalized patients. However, the treatment consisted of friendly, chatty, informal conversations with the staff psychologist. As such, they were considered to be supportive contacts rather than psychotherapy as there was no attempt to establish an open, close relationship, an assessment of patient problems, desired goals of treatment or any of the other standard techniques of psychotherapy.

Several writers have claimed that session durations of greater than 1 hour are conducive to successful psychotherapy. Kornrich (1965) advocates the use of a "double" or 90 minute session. His rationale, derived from his own work, is that the longer sessions give the patient time to warm up or to overcome shyness and/or defensiveness and to start communicating in more honest ways, thus promoting a successful outcome. He also points out that the longer sessions enable the patient to ventilate his or her feelings by telling the therapist lengthy, seemingly irrelevant stories which often are found to be highly relevant to the patient's problems. Kornrich (1965) cites Freud (1959), Bieber (1957), Bychowski (1957) and Greenacre (1959) in support of the notion that longer sessions may be helpful. More

recently, Roth et al., (1969) found that 10 hours of continuous therapy led to a successful outcome. They proposed similar reasons to those of Kornrich (1965) in support of longer sessions. Other authors, while they have not conducted research, have stressed the importance of determining the effects of session duration on therapy outcome (Saccuzzo, 1977; Strassberg et al., 1977).

Session duration is a minor part of the individual psychotherapy outcome literature. However, effectiveness of longer sessions derives support from literature pertaining to marathon group therapy. To quote from a representative review of group marathon techniques by Bach (1966):

> In the course of conducting over 12,000 therapeutic group hours with a great variety of patients, it is clinically observable that for many patients the 50-minute individual hour or the 1- to 2-hour group sessions are not long enough for either patient or therapist to take off their social masks, ie., to stop playing games and start interacting truthfully, authentically, and transparently. It takes a longer session for people in our culture to switch from the marketing stance of role-playing and image-making, which they must practice in the work-a-day world, to feel free to "come out" straight and strong, not hidden behind oblique "sick" roles or other so-called "resistance." (p. 995).

Summary-Psychotherapy Session Duration. The relationship between session duration and outcome in individual psychotherapy has not been adequately investigated in the literature. While some studies advocate a session length of less than 1 hour, the sessions served purposes other than traditional STTL or LTTU psychotherapy (Barten, 1965; Dreblatt & Weatherley, 1965; Koegler et al., 1964;

Goldfarb & Sheps, 1954; Goldfarb & Turner, 1953). Other studies, whose sessions were concerned with carrying out psychotherapy, provide descriptive and case study evidence that longer individual sessions may be more conducive to successful psychotherapy outcomes (Kornrich, 1965; Roth et al., 1969). Collateral support for this notion is provided by a representative article concerned with marathon group therapy (Bach, 1966).

In summary, systematic research on the relationship between psychotherapy outcome and session duration is needed. More specifically, an initial comparison of the effects of the traditional 1 hour session vs. a longer session duration (2 hours) appears warranted.

Theoretical Considerations

The previously outlined literature pertaining to the session frequency and duration variables provided no definitive indications as to the effect of these variables on psychotherapy outcome. While several authors have suggested that longer sessions and/or more frequent sessions tend to produce more favorable outcomes, design and methodological problems preclude the firm assertion of this conclusion. An additional major difficulty is that the process by which these time parameters may affect psychotherapy outcomes has not been addressed in past research. The overall effect of this omission is that given that different outcomes do result from the manipulation

of session frequency and duration, we would not know to what process or psychological variables to attribute the differences. Thus, in line with Kiesler (1971), it is necessary to specify what aspects of the process of therapy affected by the manipulation of time parameters and how these differences lead to therapy outcome differences. In this regard the therapist-client relationship, the amount of client self-disclosure, and the degree to which the client has a positive expectation as to the outcome of therapy have been suggested by past time parameter research as possible intervening process variables.

Therapist-Client Relationship

In regard to the therapist-client relationship, Roth et al., (1969) suggests that longer and more frequent therapy sessions enable the relationship to build more quickly and completely. Although they offer no data to support their contention, they suggest that this effect on the relationship results because there is a greater interactional flow in more concentrated sessions. Bach (1966), in reference to the effect of highly concentrated marathon therapy, suggests feelings of authenticity, psychological intimacy, trust and transparency grow rapidly between participants and the therapist as a result of the intense interaction and fatigue factors involved in highly time-concentrated therapy. Similar points to those of Roth et al. (1969) and Bach (1966) are offered by Cohen (1969) and Barten (1965).

Rogers (1957) stated that a good therapist-client relationship was a necessary and sufficient condition for a successful psychotherapy outcome. A good relationship was defined as a condition by which the client perceives the therapist as genuine, empathatic and warm toward him or her in the course of therapy. This notion has received strong support from a number of extensive investigations (summarized by Barrett-Lennard & Jewell, 1966; Truax & Carkhuff, 1967).

It has been suggested that time concentrated therapy will produce a better therapist-client relationship (Bach, 1966; Barten, 1965; Cohen, 1969; Roth et al., 1969). Coupled with the notion that better therapist-client relationship leads to better therapy outcomes (Truax & Carkhuff, 1967; Gomes-Schwartz, Hadley & Strupp, 1978), it may be hypothesized that in the present research the quality of the therapist-client relationship and the outcome of therapy will be an increasing function of the duration and frequency of the therapy sessions.

Client Self-Disclosure

Self-disclosure is defined as any information about himself which person A communicates verbally to a person B (Cozby, 1973). Several authors have suggested that the traditional 1 hour once-a-week schedule of psychotherapy is not conducive to high levels of client self-disclosure, whereas longer more frequent sessions may be. Bach (1966) has suggested that longer more frequent sessions are

required for greater client self-disclosure because people in our culture cannot quickly or easily switch from the marketing stance of role-playing and image making that they practice in their everyday lives. Roth et al. (1969) has suggested that a more massed therapy regimen provides for more client self-disclosure because there are fewer warm-up periods to go through; and, in addition, the client can work up to total ventilation in a slower and seemingly safer manner. Kornrich (1965), in defense of longer sessions durations, makes similar points to those of Roth et al. (1969).

Several authors (Jourard, 1964, 1968; Mowrer, 1964; Rogers, 1961; Truax & Carkhuff, 1965; Strassberg et al., 1977) have advanced the notion that high levels of client self-disclosure lead to better psychotherapy outcomes. In conjunction with the above suggestion that a more time massed therapy schedule leads to more client self-disclosure, it may be hypothesized that in the present research the degree of client self-disclosure and the quality of the outcome of therapy shall be an increasing function of session duration and frequency.

Client Expectations

Imber et al. (1957) has suggested that a client's conviction that he or she will be helped by the therapist and his techniques is not necessarily brought to the therapy situation but is built up over sessions. They further suggest that the longer and more fre-

quent the sessions, the greater will be the client's expectation of help in the therapy situation.

A number of investigators studying the relationship between a client's expectancies and therapy outcome have suggested that a positive relationship exists between the extent of a client's expectations of therapy and the outcome of therapy (Frank, Gliedman, Imber, Stone & Nash, 1959; Goldstein & Shipman, 1961; Lennard & Bernstein, 1960; Lipkin, 1954; Richert, 1976; Martin, Moore, Friedmeyer & Claveaux, 1977; Lindsey, Martin & Sterne, 1977). Coupled with Imber et al.'s (1957) suggestion that a client's expectations are increased with longer more frequent sessions, it may be hypothesized that in the present research the client's expectations and the quality of therapy outcome will be an increasing function of session duration and frequency.

Present Research

The purpose of this research is to determine the effects of session frequency and session duration on the process and outcome of psychotherapy. Two levels of each variable were crossed in a factorial design. In addition a fifth group, essentially a marathon condition, was included.

In this research session frequency was defined by intersession interval (ISI), while session duration was defined by the length of

time from the beginning to the end of the session. In the 2 x 2 factorial, two levels of session frequency (1 day ISI vs. 4 day ISI) were completely crossed with two levels of session duration (1 hour vs. 2 hours). In the fifth or marathon group, both the duration and frequency variables were maximized in that subjects were seen for 10 almost continuous hours of therapy. Note that subjects were assigned at random to their respective groups and each subject received a total of 10 hours of STTL psychotherapy.

Session frequency was chosen for the study because no psychotherapy outcome study that has controlled for absolute number of hours of therapy and provided a single therapist and therapy type has investigated the effect of session frequency on psychotherapy process and outcome. The question may be raised as to why the specific values of the frequency variable were chosen as such. In particular, why is a marathon condition being compared to more clinically acceptable spaced session regimen? In order to answer this question, we must look more closely at the theoretical aspects of the frequency variable.

First, suggestive evidence from the literature has indicated that high session frequencies are more conducive to positive outcomes than low session frequencies (Bierenbaum et al., 1976; Cappon, 1964; Dreblatt et al., 1965; Heinicke, 1969; Lorion et al., 1974; Lorr et al., 1962; McNair et al., 1964; Roth et al., 1969). Why this occurs, if in fact it does, is also unclear; however, Roth et al. (1969) in

particular has advanced several process notions which may provide an explanation. Roth et al. (1969) after conducting 10 continuous hours of psychotherapy with a single subject, advanced the notion that frequent sessions lead to a more intense interaction between the client and therapist, the benefits of which may outweigh the therapeutic growth derived by allowing the client to practice what he or she has learned between sessions in a more traditional spaced session regimen. The central notion here is that psychological growth is maximized through an intense relationship established with the therapist wherein all barriers to full and honest communication are lifted. In a spaced-session regimen, the intensity of the relationship and the willingness to disclose and communicate openly is interrupted between sessions thus slowing the progress of therapy to the detriment of the eventual outcome particularly of STTL psychotherapy.

The notions advanced by Roth et al. (1969) derive some support from the literature which indicates that more frequent sessions lead to a better therapist-client relationship (Bach, 1966; Barten, 1965; Cohen, 1969), as well as more client self-disclosure (Bach, 1966; Kornrich, 1965). Imber et al. (1957) has added that client expectations as to the outcome of therapy are increased with more frequent sessions. To complete the link between session frequency and outcome, the literature also indicates that better therapist-client relationships, higher client expectations and greater client self-disclosure

lead to better psychotherapy outcome (Barrett-Lennard et al., 1966; Lennard & Bernstein, 1960; Lipkin, 1954; Mowrer, 1964; Truax & Carkhuff, 1965, 1967; Rogers, 1957; Martin et al., 1977; Lindsey et al., 1977; Richert, 1976; Gomes-Schwartz et al., 1978; Strassberg et al., 1977).

Therefore, in defence of the frequency levels chosen, the marathon and the 1 day ISI groups were included to fully explore the frequency variable and the supposed increased client self-disclosure, client expectations and improved therapist-client relationship and the supposed resultant superior psychotherapy outcome. The spaced session groups (4 day ISI) were included to provide a more traditionally spaced session comparison with the maximized frequency groups. A 4 day ISI was deemed adequate for purposes of comparison. In addition, it was chosen to allow for more rapid completion of the course of therapy so as to reduce the attrition rate. Thus, with reference to the frequency of therapy variable, it is hypothesized that the quality of the therapist-client relationship, the degree of client self-disclosure, the extent of the client's expectations as to therapy outcome, as well as the eventual quality of outcome will be an increasing function of therapy session frequency. More specifically, it is predicted that the process and outcome variables will be maximized in the marathon group, followed by the 1 day groups, followed by the 4 day ISI groups.

With regard to the session duration variable, two groups will

have 1 hour sessions and two groups will have 2 hour sessions. These values were chosen on the basis of the literature which indicated that the duration variable has not been adequately investigated and that longer sessions (2 hours) may be more conducive to positive psychotherapy outcomes than shorter sessions (1 hour) (Bach, 1966; Kornrich, 1965; Roth et al., 1969). Since the session duration variable has received much less attention than the frequency variable in the literature, the theoretical links outlined previously are not as clear with respect to session duration, process and outcome. However, since longer sessions would be expected to facilitate the therapist-client relationship, client self-disclosure and expectations, it is hypothesized that these intervening variables as well as the quality of outcome will be an increasing function of psychotherapy session duration. More specifically, it is predicted that the process and outcome variables will be maximized in the 2 hour duration groups, followed by the 1 hour duration groups. This investigation of the duration variable must be construed as an empirical test, as a theory from which to derive hypotheses is not available.

METHOD

Subjects

Fifty subjects were selected on the basis of a brief pre-therapy interview conducted by the experimenter. The subjects were white male and female adults between 18 and 50 years of age, who presented themselves at a community mental health center and requested professional help. Individuals known to suffer from organic, toxic or addictive illness, mental deficiency or psychosis were not used as subjects. The subjects consisted primarily of psychoneurotics and individuals suffering from situational reactions. In order to have been selected, the subject's chief complaints must have centered around anxiety and/or depressive symptoms. In addition, the selected subjects must not have displayed a gross misinterpretation of reality nor gross personality disorganization. A summary of demographic data and diagnoses for all 50 subjects is contained in Appendix A. The subjects were blind to the purpose of the research. They were told that their anonymous answers to questions would be used for research purposes and that confidentiality would be strictly observed. Subjects will be referred to as clients in the remainder of this text.

Materials

Therapy Equivalence Questionnaire. Two mental health workers

trained by the experimenter as raters, each rated five, 5 minute audio recordings from each therapy session with each subject to provide a check for the equivalence of the therapeutic interaction across groups. The ratings were done blind by means of a check mark on a 5-point scale in response to six questions designed to measure the essential components of STTL psychotherapy as outlined previously. The questions were designed to determine if the therapist-client relationship appeared open and honest; if the therapist appeared to concentrate on specific goals; if the therapist used confrontation tactics and risked communication in emotionally charged areas; if the therapist attempted to instill in the client a positive expectation as to the outcome of therapy; and finally, if the therapist emphasized current rather than past problems in therapy. A copy of the questionnaire is contained in Appendix B.

Client Expectations Questionnaire. Data as to the client's expectations of the therapy was collected by means of a brief questionnaire. The questionnaire contained a multiple choice question, the answer to which was checked by the client. Since the choices on the question are numbered one through five, a total maximum score of 5 is possible with each administration of the test. The degree to which a client's score approached the maximum score indicated the degree of positive expectation of the client with respect to the extent to which the therapy would solve his or her problems. The experimenter was not aware of the client's answers until the

completion of the experiment. A copy of the questionnaire is contained in Appendix C.

Relationship Inventory. The quality of the therapist-client relationship was measured by means of a modified form of the Barrett-Lennard Relationship Inventory (Wiebe & Pearce, 1973). This 32-item multiple choice questionnaire measured the client's perceptions of their therapist in terms of four scales: the level of regard (10 items), the degree of empathic understanding (7 items), the degree of congruence perceived (10 items), and the unconditionality of regard perceived (5 items). The level of regard scale of the questionnaire is designed to measure the degree to which the client perceives the therapist as having positive feelings as opposed to negative feelings toward him or her. Positive feelings in this context would include respect, liking, affection, etc. Negative feelings would include dislike, contempt, etc. (Barrett-Lennard, 1962).

The empathic understanding scale measured the degree to which the client feels that the therapist perceived both his direct communications, as well as senses or feels the immediate affective quality and intensity of his communications (Barrett-Lennard, 1962). The unconditionality of regard scale measured the degree to which the client perceives that the therapist's level of regard remains constant or the perceived degree of variability in the therapist's affective regard for the client. The congruence scale measured the client's

perception of the degree of inconsistency between his total experience, his awareness and his overt communications in therapy. If a client is maximally congruent in therapy this would imply that he or she does not feel psychologically threatened and would be maximally open to the communications and experiences occuring in therapy (Barrett-Lennard, 1962).

The questionnaire makes use of three grades of "yes" and three grades of "no" response, which are identified to the client as: +1, "I feel that it is probably true or more true than untrue." +2, "I feel it is true." +3, "I strongly feel that it is true." -1, "I feel it is probably untrue, or more untrue than true." -2, "I feel it is not true." -3, "I strongly feel that it is not true." The client is instructed to attach one of these weighted answers to each of the 32 items of the inventory. This scoring procedure is arranged so that each answer given either adds or detracts from the scale score to which it pertains, as well as the resultant total score which is the sum of the four individual scale scores (Barrett-Lennard, 1962).

As was the case with the client expectations questionnaire, the client's responses to the Relationship Inventory (RI) were not seen by the experimenter until the completion of therapy. A copy of the RI is contained in Appendix D. Standardization data for the RI may be found in Appendix E.

Self-Disclosure Questionnaire. The client's degree of self-disclosure was measured by the Jourard Self-Disclosure Questionnaire

(JSDQ) (Jourard & Lasakow, 1958). This 60-item questionnaire contains 10 items in each of six content areas: attitudes and opinions, tastes and interests, work (or studies), money, personality and body. In the present research, the JSDQ was used to determine the extent to which the client discloses information to the therapist in the course of therapy.

The client was asked to anonymously respond to each item of the JSDQ by marking either a 0,1,2, or X. The "0" response is described to the client as "I have told my therapist nothing about this aspect of me." The "1" response is defined as, "I have talked only in general terms about this item." The "2" response represents, "I have talked in full and complete detail about this item to my therapist." The "X" response signifies, "I have lied or misrepresented myself to my therapist about this aspect of me." The numbers are summed (with X's scored as zeros) yielding a total score which indicates the degree of client self-disclosure.

As with the previously outlined questionnaires, the client's responses on the JSDQ were not revealed to the experimenter until the completion of therapy. A copy of the JSDQ is contained in Appendix F. Standardization data for the JSDQ is contained in Appendix G.

Outcome Measures. Baseline and outcome data was collected with the Psychiatric Status Schedule (PSS) (Spitzer, Endicott, Fleiss & Cohen, 1970), as well as the Goal Attainment Scaling method (GAS) (Kiresuk & Sherman, 1968). The outcome measurement strategy and thus

the selection of the PSS and GAS was dictated by the three characteristics of adequate outcome measures as outlined in the introduction to this paper.

The first requirement of adequate outcome measures is that they measure numerous aspects of outcome inasmuch as psychotherapy outcomes are multifactorial and not unitary (Kiesler, 1971; Luborski et al., 1971; Malan, 1973; Strupp & Bergin, 1969). The PSS adequately fulfills this requirement and is undoubtedly one of the most flexible and comprehensive instruments of its kind available (Buros, 1972). As will be seen from the following description, the PSS permits the measurement of a wide range of psychopathology, and in addition, rates the clients with respect to role functioning and addictive or psychopathic behaviour. The instrument enables a trained interviewer to conduct a standardized yet flexible interview and simultaneously score an inventory of 321 precoded items. These items evaluate the client on overall mental health by means of 17 symptom and six formal role functioning scales. The symptom scales were scored for all subjects and are designed to evaluate a client with respect to depression and anxiety (28 items), social isolation (11 items), suicide and self-mutilation (7 items), inappropriate affect, behaviour and appearance (10 items), agitation and excitement (7 items), interview belligerence and negativism (16 items), disorientation and memory impairment (11 items), motor retardation and lack of emotion (15 items), antisocial impulses or acts (7 items), reported overt anger (6 items), grandiosity (6 items),

suspicion, persecution and hallucinations (18 items), daily routine and leisure time impairment (15 items), drug abuse (20 items), and alcohol abuse (16 items).

The six role scales are scored for a subject only when applicable. They are intended to evaluate subjects with respect to the degree that they deny their illness (10 items), how adequately they function as wage earners (13 items), as mates (10 items), and as parents (12 items). A copy of the composition of the PSS scales is contained in Appendix H.

The items of the scales are weighted with larger weights representing a higher degree of severity relative to the dimension measured by the scale. Each of the symptom and role scales produce an individual score which can be combined to yield four factor analytically derived summary symptom scales and one summary role scale. The first summary symptom scale, labeled "Subjective Distress", refers to reports from the subject of subjective distress and impaired functioning. The second summary scale, termed "Behavioural Disturbance", refers to disturbances of behaviour manifested during the interview rather than the subject's report of difficulties. The "Impulse Control Disturbance" scale measures reported overt acts of poor impulse control. The fourth symptom summary scale is entitled "Reality Testing Disturbance" and refers to disturbances in the subject's ability to adequately test reality.

The summary role scale is computed by averaging the standard scores of the role scales applicable to the subject. If the subject

does not fulfill any occupational role, the test manual instructs that they should be assigned a standard score of 70, which represents two standard deviations above the mean. (See Appendix I for standardization data on the PSS.)

The second requirement of an adequate measurement procedure is that it tap both external and internal client change (Strupp & Bergin, 1969). The PSS enables a researcher to fulfill this requirement in that the large majority of items require the interviewer to gather information from small units of overt behaviour that are reported by the client as having occurred during the previous week or are observed during the interview. This behavioural information in turn feeds into the various scales which reflect the client's internal dynamic state with reference to anxiety, depression, etc. In addition, much of the information gathered feeds into scales which describe the client's day-to-day overt behaviour and functioning such as daily routine, housekeeper role, mate role, etc. The GAS procedure also allows for assessment of both internal and behavioural change. This is possible because the treatment goals established for each client may be related to the client's internal dynamic state (ie., reduction of feelings of anxiety and panic) and/or the client's external behaviour (ie., reduction in the number of times the client inhibits the expression of anger.) This dual role that is possible with the GAS method will become clearer after reading the following description of the method.

The GAS method involves establishing a number of highly individu-

alized, problem-specific goals for each therapy candidate in a scaled procedure which allows for a summary score (T) to be derived at the completion of therapy. This T score indicates that client's degree of success in accomplishing his or her goals (Boline & Kivens, 1975; Cline, Kouser & Bransford, 1973; Goodyear & Bitter, 1974; Kiresuk & Sherman, 1968).

Once a therapy candidate is selected for treatment, the goal selector, which in this case is the therapist, identifies the client's major problems and decides on a realistic set of mental health goals for each problem. Each set of goals represents a graded series of possible outcomes for a particular problem. The usual number of goals selected are five, although more or less than five goals are possible (Kiresuk & Sherman, 1968). Each of the five goals is placed in one of five possible outcome categories as follows: most unfavorable treatment outcome thought likely, less than expected outcome, expected outcome, more than expected outcome and most favorable treatment outcome thought likely. Each of these categories have fixed scale values of: -2, -1, 0, +1 and +2 corresponding to the order of possible outcomes outlined. Once the problems and goals for each client have been selected and noted on the GAS Follow-up Guide (see Appendix J), each of the problem areas with their associated goals are assigned weights (ranging from one to five) which indicates the relative importance of the problems specified. In the absence of a preference of importance for the problems, equal weighting will lose little

information (Kiresuk & Sherman, 1968). At the completion of therapy an independent evaluator meets with the client and simply indicates the goal level achieved for each problem area. A T score for each client may then be derived by the following formula:

$$T = 50 + \frac{10 \Sigma WiXi}{(1 - P)\Sigma Wi^2 + P(\Sigma Wi)^2}$$

where: Wi represents the weights for each problem.

Xi represents the scale values associated with each goal level achieved by the client (-2, -1, 0, +1 or +2).

P represents the expected overall correlation among goal scores (arbitrarily set at P = 0.3 in most cases) (Kiresuk & Sherman, 1968)

The T scores are theoretically distributed normally with a mean of 50 and a standard deviation of 10 (Kiresuk & Sherman, 1968). The T score for each client is a composite standardized score which represents a summary of the client's success in accomplishing his or her treatment goals. T scores exceeding 50 or greater represent treatment outcomes at, or exceeding, the expected level of success (Kiresuk & Sherman, 1968). Standardization data for the GAS method is presented in Appendix K.

The third requirement of adequate outcome measures is that they reflect the specific kinds of change expected with a particular client (Bergin, 1971; Kiesler, 1971; Luborski et al., 1971; Malan, 1973; Strupp & Bergin, 1969). As mentioned the PSS provides sufficient

flexibility and comprehensiveness to allow for the assessment of the unique changes in each client. However, the GAS procedure is superior in this respect in as much as it allows for the setting of highly individualized goals in therapy which permits the investigator to measure changes in the client which are unique to that client.

In addition to satisfying the requirements of adequate measures as outlined, the outcome measures selected had to be both reliable and valid and sensitive to changes in the client. As can be discerned from the standardization data on the PSS and GAS (Appendises I and K), these measures fulfill these additional requirements.

Design

The basic design is a 2 x 2 factorial with repeated measures. Each subject was assigned to their particular group on a completely random basis. Two levels of session duration (1 hour or 2 hours) were combined with two levels of intersession interval (1 day or 4 days) with repeated measures on the GAS measure made 1 week after, and 1 month after completion of therapy. Repeated measures on the PSS occurred prior to, 1 week after, and 1 month after completion of therapy. In addition to this basic 2 x 2 factorial, an additional group was included. This group received 10 hours of almost continuous STTL psychotherapy and was treated in exactly the same way as subjects in the other four groups with respect to random assignment to the group as well as data collection on all process and outcome measures.

Procedure

Clients, previously assigned to a community mental health center's (CMHC) waiting list, were referred at random to the experimenter by the CMHC secretary. This was done by having the secretary select potential client's names from the waiting list starting with those people who had been on the list the longest and working toward more recent applicants for therapy. The selection process continued until a sufficient number of clients were acquired by the experimenter to complete the study (N=50). Prior to meeting with the experimenter, the CMHC secretary explained the fee schedule to the client. All therapy candidates paid a predetermined fee to the clinic by means of a monthly billing procedure. All fees were determined by a standard formula which takes in account the client's income and expenses and raises or lowers the standard hourly rate accordingly. All fees were paid directly to the clinic and the experimenter received no financial or other renumeration for therapy services provided.

In an initial meeting, the experimenter determined if the client fell within the criteria for subject selection. The experimenter also derived sufficient information from the client to permit him to fill out the GAS Follow-up Guide illustrated in Appendix J. This guide was filled in immediately following the interview with clients accepted for therapy. During the course of the interview, it was explained to the client that their anonymous answers to questions would be used for research purposes but that, otherwise, confidentiality would be strictly

observed. They were informed that if they did not want to take part in the study, they would be assigned to a different therapist in the CMHC. If they agreed to take part, they were escorted to a different room where a trained technician administered the PSS. After this 1 hour (approximate) interview, the technician randomly determined the client's group affiliation and informed them of the schedule of their psychotherapy sessions. The random assignment to a group was carried out by drawing a number from one to five from a container, with each of the numbers representing one of the five possible groups. Once a group had been filled (n=10), the corresponding number in the container was removed and the process continued with the three or two remaining numbers until all groups had been filled.

The technician impressed upon them the importance of sticking to their appointment schedule and supplied them with a typed appointment card indicating the time, date, place and length of each session. Clients assigned to the 1-1 group were informed that they would receive 10 hours of therapy in 1 hour sessions with 1 day between sessions. Clients assigned to the 2-1 group had ten hours of therapy in 2 hour sessions with 1 day between sessions. Group 1-4 clients received 10, 1 hour sessions every 4 days; whereas clients in group 2-4 received 5, 2 hour sessions every 4 days. Subjects in the marathon group received 10 hours of continuous therapy in 1 day.

If a client could not follow the schedule assigned, he or she was dropped from the study and assigned to another therapist. The

technician also explained to the participating clients that they would be required to fill out questionnaires periodically during the course of the study. They were also informed that the nature of these questionnaires would be explained to them prior to their administration. The technician also explained that they would be required to return 1 week after their last session and again 30 days after to be interviewed. At these times the technician scored the goals achieved by the client as outlined on the GAS Follow-up Guide, as well as administered the PSS. Except for one exposure to the client's initial PSS scores (explained below), the experimenter was not informed as to the client's scores on any of the process or outcome measures used until the completion of the study.

After the client's therapy and post-test schedule had been explained, the Expectation Questionnaire (Appendix C) was administered in order to provide data about the client's expectations immediately after meeting the therapist and learning of the therapy schedule. This questionnaire was administered two additional times, i.e., following the second and sixth hours of therapy. The Relationship Inventory (Appendix D) questionnaire was administered twice, i.e., after the sixth hour of therapy and immediately following the last hour of therapy. The Self-Disclosure Questionnaire (Appendix F) was administered after 2, 4, 6, and 8 hours of therapy. The unit of analysis of the Expectation Questionnaire and the Relationship Inventory is the mean score averaged over all administrations. The unit

of analysis of the Self-Disclosure Questionnaire is the cummulative score summed over all four administrations.

In order to ensure that the potential clients selected fulfilled the subject requirements outlined for this research, the experimenter inspected the PSS data derived in the first administration of the PSS prior to the client's first session. In all cases the potential clients fulfilled the criteria for selection and his or her appointments proceeded as scheduled.

Therapy was conducted in a well-lighted and adequately ventilated office. Food and confections were available from a nearby cafeteria. Therapy was conducted solely by the experimenter. If a client missed one or more sessions, he or she was dropped from the study and replaced by another client. Continued therapy for dropped clients was made available with another therapist.

The techniques used in therapy followed the guidelines for STTL psychotherapy outlined in the Introduction of this paper. That is, the therapist initially explained the termination date, the frequency, duration and number of sessions and emphasized that the clients must actively work on their problems either symbolically or behaviorally from session one. The therapist quickly attempted to establish an open, honest and warm relationship with the client. The therapist also formulated a goal-oriented treatment plan early in therapy and actively pursued these goals by using confrontation techniques, risking communication in emotionally charged areas, leading the client to

insights rather than waiting for the client to work to them on his/her own, etc. This necessitated a "here-and-now" strategy whereby therapy was directed at present rather than past problems or complex intrapsychic material. Finally, the therapist repeatedly attempted to convince the client that the outcome of therapy would be positive in that their presenting complaints would be resolved.

In order to determine if the therapy sessions were equivalent across groups with respect to the above dimensions, a timing device, (125 volt, D.C., Gerbrands tape timer, model 1A) was used to silently switch on a tape recorder contained in the experimenter's desk for 5 minutes after approximately 1.5, 3.5, 5.5, 7.5 and 9.5 hours of therapy. While the client was informed that recordings would be taken during the sessions, they did not know specifically when this would occur in order to eliminate the possibility of demand characteristics during the session. As noted earlier, two mental health workers trained by the experimenter as to how to rate the tapes, independently rated each of the tape recordings by means of a questionnaire (see Appendix B) without any knowledge of the client's group affiliation. An analysis for the equivalence of the groups with respect to the degree of the aforementioned techniques, which were used during therapy, was carried out.

One week after the completion of the scheduled 10 hours of therapy, the client returned to allow the technician to score their GAS goals, as well as to administer the PSS a second time. Following this, the experimenter met with the client to discuss their progress in therapy.

At this time, if the client was indeed doing well, the experimenter suggested that the client continue to work on any remaining problems on their own for the next 21 days at which time they were to return in order to complete the post-test measures. It was further explained that if the client desired further therapy at the end of the 3 week period, it would be provided by the experimenter or another therapist, if so desired, until the client had reached a satisfactory solution to their problems or left therapy voluntarily.

All clients who took part in the research elected to wait the month after the post-test session after which they were debriefed. Debriefing, in all cases, consisted of telling the clients the method and purposes of the research and providing full explanations of any and all aspects of the research about which the client inquired or showed interest. In addition, the client was provided the experimenter's phone number and address so that they could clarify any additional questions they may think of concerning their participation in the research and/or the eventual conclusions drawn from the study.

RESULTS

Data analyses were carried out on the data obtained from the Therapy Equivalence Questionnaire, as well as data derived from all outcome (Psychiatric Status Schedule, Goal Attainment Scaling) and process measures (Client Expectations, Relationship and Client Self-Disclosure Questionnaires).

Therapy Equivalence Data. In order to determine if all five experimental groups were treated in an equivalent manner by the therapist with respect to the essential components of STTL psychotherapy, an analysis of variance (ANOVA) (Kirk, 1968) was carried out on the rater scores for each client. A separate ANOVA was used on each of the six questions contained in the Therapy Equivalence Questionnaire.

Results indicated no reliable differences between raters on five of the six items of the questionnaire. These results suggest that the raters did not reliably differ from each other in their evaluations of the therapist's treatment of the experimental groups. A reliable ($p. < .01$) difference between raters was found on the first questionnaire item which asked if the therapist-client relationship appeared open and honest. Since this lack of rater agreement could possibly affect the interpretation of any differences in the dimensions

of STTL therapy the raters discerned across groups, a Pearson r-correlation coefficient (Freund, 1968) was calculated to determine the degree of inter-rater agreement. The correlation was $r = .982$, indicating that inter-rater reliability was high over the six questionnaire items. The inter-rater agreement appeared sufficiently high to justify combining rater scores in order to allow for between group comparisons.

The analysis of the rater data indicated a reliable difference between treatment groups for all dimensions of STTL therapy outlined in the questionnaire ($p < .01$). The rater by groups interaction was not statistically significant in any of the six analysis ($p > .05$).

In order to determine which groups were treated differently a plot of the combined mean rater scores across treatment groups was drawn up. Since the shape and slope of each of the questionnaire item profiles was highly similar, a mean rater score averaged across all six therapy equivalence questionnaire items was derived and plotted as a function of treatment group. This plot appears in Figure 1.

Figure 1 suggests that the therapist was biased in this therapy technique. Clients in the 1-1, 4-2 and marathon groups appear to be equivalent with respect to the dimensions of therapy examined, whereas in the 1-2 and 4-1 groups the therapeutic interaction was perceived less open and honest, less goal directed, less confrontive, the therapist risked emotionally charged communication to a lesser degree,

TABLE 1

Analysis of Variance of the First Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	3.610	1	3.610	6.898	.0099
B-Groups	10.640	4	2.660	5.083	.0013
AB	0.440	4	0.110	0.210	.9304
Error	47.100	90	0.523		
Total	61.790	99			

TABLE 2

Analysis of Variance of the Second Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	1.690	1	1.690	2.506	.1130
B-Groups	14.540	4	3.635	5.390	.0009
AB	0.460	4	0.115	0.170	.9506
Error	60.700	90			
Total	77.390	99			

TABLE 3

Analysis of Variance of the Third Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	0.250	1	0.250	0.318	.5810
B-Groups	11.860	4	2.965	3.774	.0072
AB	0.500	4	0.125	0.159	.9559
Error	70.700	90	0.786		
Total	83.310	99			

TABLE 4

Analysis of Variance of the Fourth Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	1.000	1	1.000	1.324	.2517
B-Groups	13.960	4	3.490	4.619	.0023
AB	0.200	4	0.050	0.066	.9889
Error	68.000	90	0.756		
Total	83.160	99			

TABLE 5

Analysis of Variance of the Fifth Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	1.000	1	1.000	2.055	.1515
B-Groups	8.940	4	2.235	4.592	.0024
AB	1.300	4	0.325	0.668	.6184
Error	43.000	90	0.487		
Total	55.040	99			

TABLE 6

Analysis of Variance of the Sixth Item from

The Therapy Equivalence Questionnaire

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Raters	0.0	1	0.0	0.0	1.000
B-Groups	15.800	4	3.950	5.965	.0005
AB	0.600	4	0.150	0.227	.9215
Error	59.600	90	0.662		
Total	76.000	99			

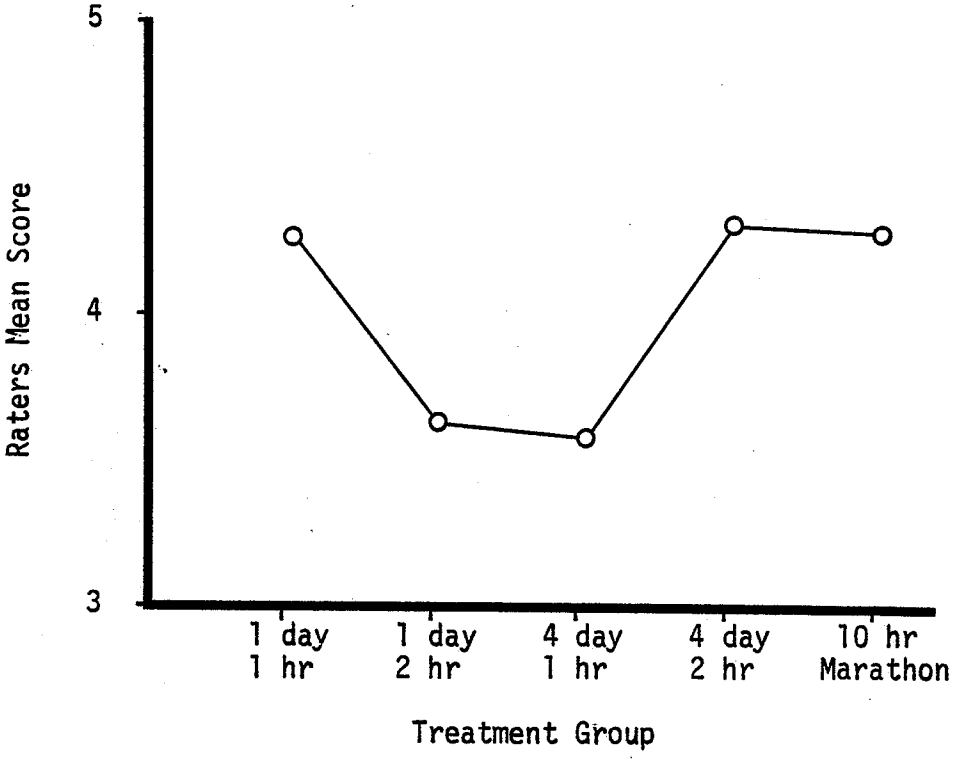

FIGURE 1: Raters mean scores averaged across all six therapy Equivalence Questionnaire items as a function of treatment groups.

instilled less positive expectation as to outcome and concentrated less on present than past problems.

Analysis of Outcome Data. Appropriate analyses of variance were carried out on each of the dependent measures (process and outcome). Results of this initial analysis indicated that the independent variables did not differentially affect outcome across the 5 treatment groups. However, since the experimental groups appeared to have been treated differently with respect to the dimensions of STTL psychotherapy, an analysis of covariance (Kirk, 1968) with the mean rater scores for each subject used as the covariate, was selected to analyse all process and outcome dependent measures. As will be evident, the analyses of covariance carried out suggested also that the independent variables did not differentially affect outcome across groups. Thus, while the relationship (r) between the rater scores and the outcome variables is not known, the highly similar results of the analyses of variance and covariance suggest that any differential action on the part of the therapist across groups, had no systematic or differential effect on outcome.

Since the marathon condition did not conceptually fit under either the session frequency or duration variables, it was necessary to carry out two analyses of covariance for each of the five summary scales of the PSS (Subjective Distress, Roles, Impulse Control, Reality Testing, Behavioural Disturbance). The first analysis of covariance in each case looked at the design as a 2 x 2 x (3).

That is, a complete factorial, crossing two levels of session frequency (1 day vs. 4 days) with two levels of session duration (1 hour vs. 2 hours) with the third within-clients factor being testing occasions (pre-test, post-test, follow-up). The second analysis of covariance combined the frequency and duration variables and regarded the design as a 5 x (3). That is, a five independent groups design, with a within-client repeated measures factor (test occasions). The first analysis of covariance yields information as to the separate main effects of frequency, duration and test occasions as well as their interactions for four experimental groups (1-1, 1-2, 4-1, 4-2), while the second analysis of covariance permits a comparison of all five experimental groups thereby including the marathon condition.

Note that tests for the possibility of violation of the assumption of homogeneity of within-group regression coefficients were not carried out. Kirk (1968) has noted that tests of significance in analysis of covariance are robust with respect to violation of this assumption. He further notes that given that a violation of this assumption does occur, little is known concerning the effect of the violation on overall tests of statistical significance.

Psychiatric Status Schedule Data. The 2 x 2 x (3) analysis of covariance of the Subjective Distress data indicated a significant session frequency and test occasion effect ($p < .01$). The two-way and three-way interactions were not reliable ($p > .05$).

TABLE 7

Analysis of Covariance [2x2x(3)] of the Subjective Distress

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	1086.394	1	1086.394	18.44	.006
B-Duration	176.804	1	176.804	8.71	.242
AB	32.875	1	32.875	1.42	.611
Error	4365.785	35	124.736	0.26	
C-Test Occasions	13744.824	2	6872.412	127.66	.000
CA	1227.070	2	613.535	1.04	.360
CB	358.571	2	179.285	1.16	.318
CAB	41.422	2	20.711	2.02	.140
Error	11832.552	72	164.341		

The five group analysis of covariance indicated a reliable groups ($p < .05$) and test occasions effect ($p < .01$). The groups by occasions interaction was not reliable ($p > .05$).

Figure 2 contains the covariance adjusted mean Subjective Distress scores as a function of session frequency and test occasions.

As is illustrated in Figure 2, all clients improved reliably from the beginning to the end of therapy. This result was verified by Newman-Keuls multiple comparison tests (Kirk, 1968) performed on the covariance adjusted pre-test and post-test means for the therapy every day (1 day group), therapy every 4 days (4 day group) and the marathon group. Pre-test and post-test scores differed reliably for all three groups ($\underline{Wr}$ (44) = 14.73, $\underline{p} < .01$). However, it is obvious that pre-therapy differences existed, presumably attributable to a failure of randomization in assignment of clients to groups. It is suggested that the initial differences in Subjective Distress between the 1 day and 4 day groups are maintained throughout the therapy and follow-up period thus indicating no differential effect of the frequency variable. The marathon group appears to differ from the 1 day group at the post-test and from the 4 day group at follow-up. However a Newman-Keuls multiple comparison test of ordered covariance adjusted means at these points indicates these apparent differences to be statistically not reliable ($\underline{Wr}$ (44) = 14.73, $\underline{p} > .05$).

With reference to rate of improvement, the diagramatically apparent differences in rate between the three groups can be accounted

TABLE 8

Analysis of Covariance [5x(3)] of the Subjective Distress

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	1258.144	4	314.536	2.77	.039
Error	5004.351	44	113.735		
C-Test Occasions	10422.945	2	5211.472	161.96	.000
AC	433.015	8	54.126	1.68	.114
Error	2895.927	90	32.176		

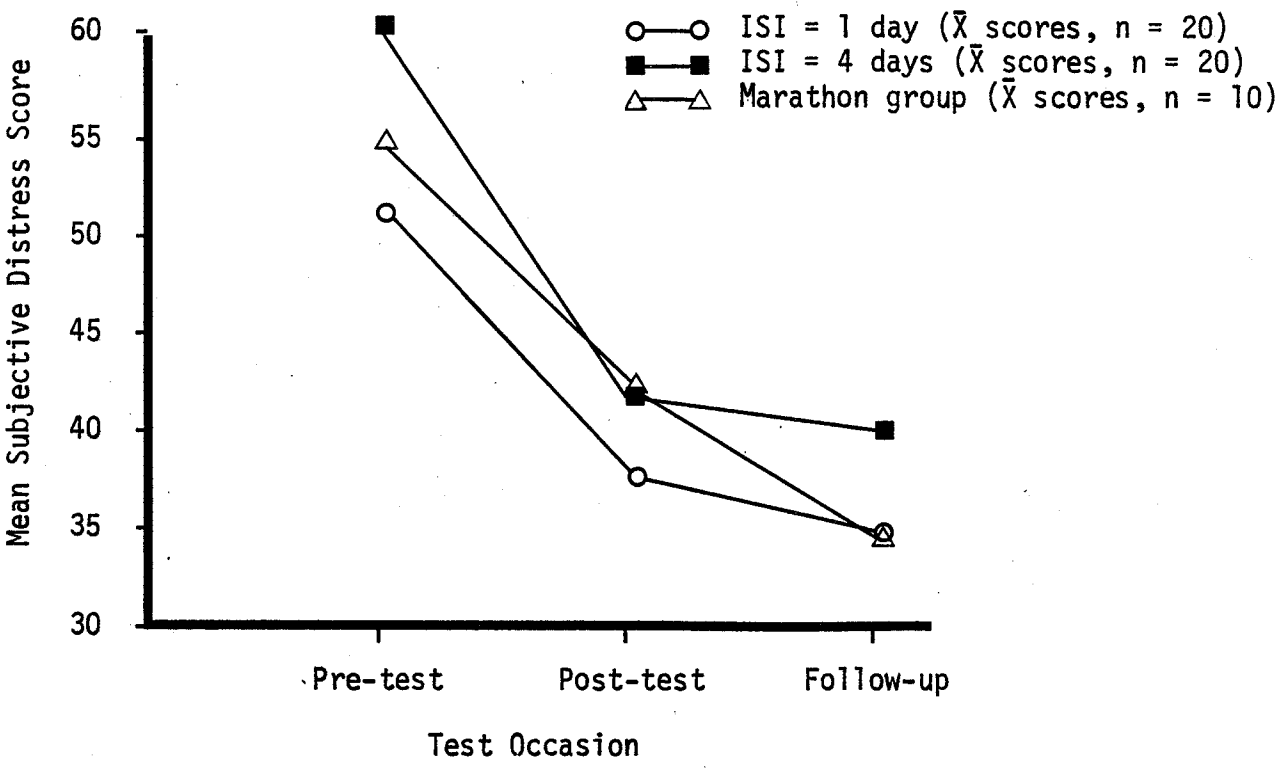

FIGURE 2: Covariance adjusted mean Subjective Distress scores as a function of session frequency and test occasions.

for by the fact that the marathon clients improved at the same rate during the follow-up period as during therapy whereas the other two groups tended to improve at a slower rate during follow-up than during therapy per se. In summary, with respect to the Subjective Distress variable, all clients appear to have improved reliably from the start of therapy to the end of the follow-up period. There appears to be no differential effect of therapy frequency across groups.

An identical analysis to that used with the Subjective Distress variable was carried out on the Role Functioning data. The 2 x 2 x (3) analysis of covariance indicated a reliable frequency effect ($p < .01$), a reliable test occasions effect ($p < .01$) and a reliable frequency by test occasions interaction ($p < .05$). The duration effect, the frequency by duration, and frequency by duration by occasions interactions, were not statistically significant ($p > .05$).

The analysis of covariance performed across all five experimental groups, yielded a reliable main effect for groups ($p < .05$) and test occasions ($p < .01$). The groups by occasions interaction was not reliable ($p > .05$).

Figure 3 illustrates the covariance adjusted mean Role Functioning scores as a function of session frequency and test occasions. Clients in the 4 day group relative to the 1 day group appear to be functioning more poorly with respect to their applicable roles (wage earner, housekeeper, student, mate and/or parent) prior to therapy, and continued to

TABLE 9

Analysis of Covariance [2x2x(3)] of the Role Functioning

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	6157.856	1	6157.856	11.27	.002
B-Duration	494.432	1	494.432	0.90	.348
AB	894.416	1	894.416	1.64	.209
Error	19124.976	35	546.427		
C-Test Occasions	13744.824	2	6872.412	41.82	.000
CA	1227.070	2	613.535	3.73	.029
CB	358.571	2	179.285	1.09	.341
CAB	41.422	2	20.711	0.13	.882
Error	11832.552	72	164.341		

TABLE 10

Analysis of Covariance [5x(3)] of the Role Functioning

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	4906.486	1	4960.486	3.30	.019
Error	2706.150	44	61.503		
C-Test Occasions	1581.624	2	790.812	39.61	.000
AC	189.681	8	23.710	1.19	.315
Error	1796.769	90	19.964		

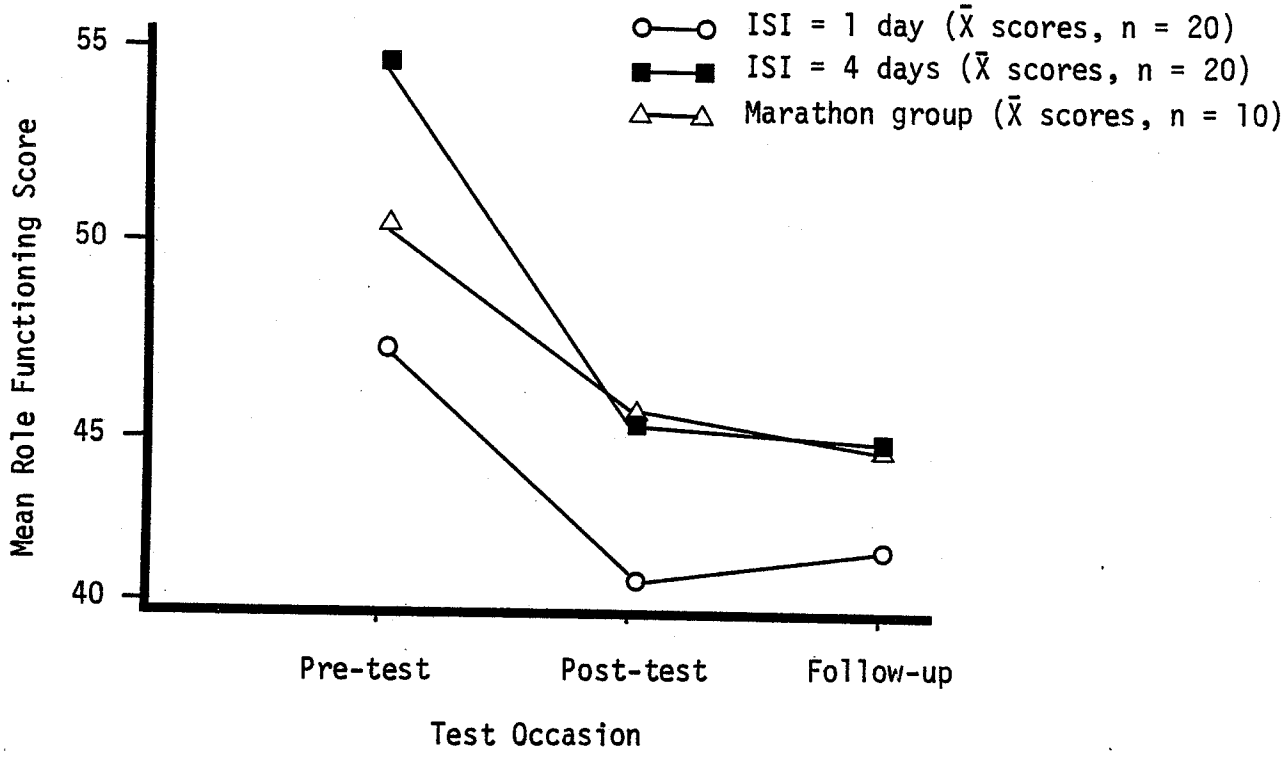

FIGURE 3: Covariance adjusted mean Role Functioning scores as a function of sessions frequency and test occasions.

do so until the end of the follow-up period. However, as is apparent in Figure 3, the difference between these two groups is larger at the pre-test than at follow-up due to the slight deterioration in Role Functioning of the 1 day group during the follow-up period. The converging of the curves during the follow-up period is undoubtedly largely responsible for the reliable frequency by test occasions interaction found with the 2 x 2 x (3) analysis.

A Newman-Keuls test performed on the covariance adjusted mean scores between the 4 day and the 1 day groups at the pre-test, post-test and follow-up points proved to be statistically non-significant (Wr (44) = 8.53, p >.05). This indicates that the reliable group difference found in the five group analysis is largely accounted for in terms of a failure of randomization in client assignment which resulted in pre-therapy group differences which were largely maintained throughout. In order to further investigate the reliable test occasions effect found in the 5 x (3) analysis, Newman-Keuls tests were performed on the mean scores of the 4 day, 1 day and marathon groups between pre-test and follow-up. With respect to the 4 day group the difference between the pre-test and follow-up was reliable (Wr (44) = 4.80, p <.05). The difference between the pre-test and post-test scores for the 1 day and the marathon groups were not reliable (Wr (44) = 7.09, p >.05 and Wr (44) = 8.53, p >.05). These results indicate that the reliable test occasions effect found in the five group analysis can largely be attributed to changes over test occasions in the 4 day condition.

In summary, with respect to the Role Functioning variable, all clients appear to have improved, however only in the 4 day group was this change statistically reliable. The clients did not improve differentially as a function of therapy frequency and/or experimental group affiliation.

Impulse Control data analysis was carried out with the analysis of covariance procedure. The 2 x 2 x (3) analysis indicated only test occasions as reliable ($p < .01$). All other main effects and interactions were not statistically significant ($p > .05$).

Figure 4 illustrates the covariance adjusted mean Impulse Control Scores as a function of session frequency and test occasions. The 1 day and 4 day groups appear to improve slightly over occasions accounting for the statistically significant occasions effect.

The 5 x (3) analysis of covariance yielded a reliable test occasions effect ($p < .01$) and a reliable groups by occasions interaction ($p < .05$). The main effect for groups was not statistically significant ($p > .05$).

As is illustrated in Figure 4, the groups by occasions interaction is undoubtedly due to the fact that the 1 day and 4 day groups demonstrate slightly U shaped functions over test occasions, whereas the marathon group demonstrates an inverted U shaped function over occasions. These results indicate that the 1 day and 4 day groups improved slightly during therapy but then declined slightly during the follow-up period. The opposite occured with the marathon group. In

TABLE 11

Analysis of Covariance [2x2x(3)] of the Impulse Control

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	45.676	1	45.676	1.03	.317
B-Duration	48.182	1	48.182	1.09	.304
AB	13.968	1	13.968	.32	.578
Error	1548.489	35	44.242		
C-Test Occasions	115.215	2	57.607	11.21	.000
CA	5.149	2	2.574	0.50	.608
CB	11.516	2	5.758	1.12	.332
CAB	27.516	2	13.758	2.68	.076
Error	369.933	72	5.137		

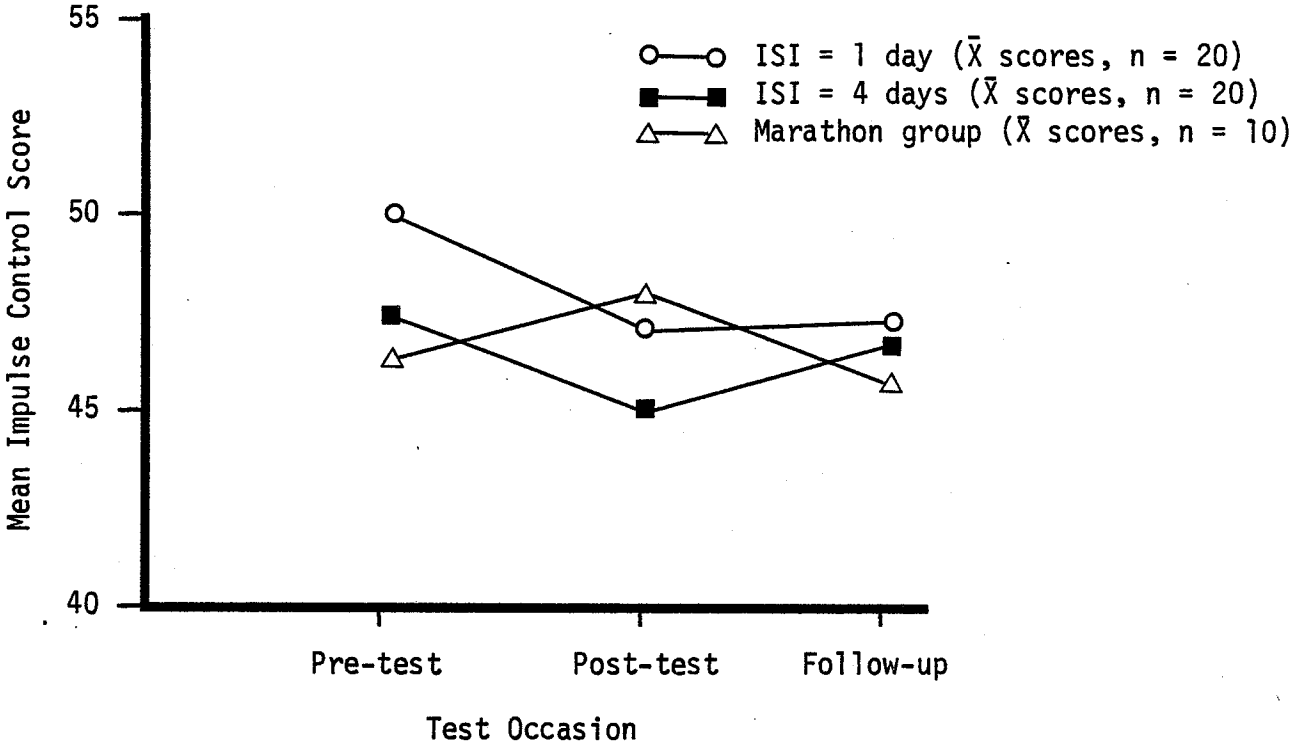

FIGURE 4: Covariance adjusted Mean Impulse Control scores as a function of session frequency and test occasions.

TABLE 12

Analysis of Covariance [5x(3)] of the Impulse Control

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	124.570	4	31.142	0.80	.533
Error	1718.030	44	39.046		
C-Test Occasions	81.119	2	40.559	8.25	.001
AC	97.145	8	12.143	2.47	.018
Error	442.397	90	4.915		

summary of the Impulse Control variable, the clients appear to have attained greater impulse control over the entire course of therapy and follow-up. In the 1 day and 4 day groups, greater gains were made during therapy followed by a slight decline in follow-up. The marathon group showed a decline in impulse control between the pre-test and post-test but improved during the follow-up period.

Analysis of covariance was also carried out on the Reality Testing and Behavioural Disturbance summary scales. For both scales and both analysis [2 x 2 x (3) and 5 x (3)] only test occasions proved reliable ($p < .01$). All other main effects and interactions were not statistically significant ($p > .05$). These results indicate that the changes which occured on these dimensions over test occasions were not systematically effected by the frequency or duration variables, nor the marathon condition.

Goal Attainment Scaling Data. A 2 x 2 x (3) and a 5 x (3) analysis of covariance was performed on the T scores derived from the Goal Attainment Scaling procedure. Both analyses indicated a statistically significant test occasions effect ($p < .01$). All other main effects and interactions were not reliable ($p > .05$).

Figure 5 illustrates the covariance adjusted mean Goal Attainment T scores as a function of session frequency and test occasions. As is indicated, rapid improvement is seen for all three groups between the pre-test and post-test. During the follow-up period the marathon group continued to improve at a high rate whereas the 1 day and 4 day groups'

TABLE 13

Analysis of Covariance [2x2x(3)] of the Reality Testing

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	2.665	1	2.665	0.31	.580
B-Duration	3.290	1	3.290	0.39	.538
AB	0.116	1	0.116	0.01	.908
Error	298.212	35	8.520		
C-Test Occasions	122.849	2	61.424	8.95	.000
CA	0.216	2	0.108	0.02	.984
CB	11.816	2	5.908	0.86	.427
CAB	4.049	2	2.024	0.29	.746
Error	494.396	72	6.866		

TABLE 14

Analysis of Covariance [5x(3)] of the Reality Testing

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	27.547	4	6.886	0.49	.746
Error	624.244	44	14.187		
C-Test Occasions	185.772	2	92.886	13.54	.000
AC	22.225	8	2.778	0.41	.915
Error	617.328	90	6.859		

TABLE 15

Analysis of Covariance [2x2x(3)] of the Behavioural Disturbance

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	12.131	1	12.131	0.16	.693
B-Duration	66.722	1	66.722	0.87	.356
AB	3.985	1	3.985	0.05	.821
Error	2670.929	35	76.312		
C-Test Occasions	601.314	2	300.657	14.17	.000
CA	72.949	2	36.474	17.2	.186
CB	33.216	2	16.608	.78	.461
CAB	29.316	2	14.658	.69	.504
Error	1527.196	72	21.211		

TABLE 16

Analysis of Covariance [5x(3)] of the Behavioural Disturbance

Summary Scale of the Psychiatric Status Schedule

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	77.064	4	19.266	0.29	.883
Error	2917.442	44	66.305		
C-Test Occasions	713.437	2	356.718	17.55	.000
AC	173.435	8	21.678	1.07	.394
Error	1829.794	90	20.331		

TABLE 17

Analysis of Covariance [2x2x(3)] of the Goal Attainment

Scaling T Scores

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	951.840	1	951.840	.95	.337
B-Duration	186.768	1	186.768	.19	.669
AB	97.824	1	97.824	.10	.757
Error	35133.600	35	1003.817		
C-Test Occasions	180699.696	2	90349.840	183.31	.000
CA	172.448	2	86.224	0.17	.840
CB	38.272	2	19.136	0.04	.962
CAB	126.848	2	63.424	0.13	.879
Error	35487.872	72	492.887		

TABLE 18

Analysis of Covariance [5x(3)] of the Goal Attainment

Scaling T Scores

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	1284.992	4	321.248	0.32	.861
Error	43656.080	44	992.183		
C-Test Occasions	230737.744	2	115368.864	245.78	.000
AC	3691.216	8	461.402	0.98	.455
Error	42245.296	90	469.392		

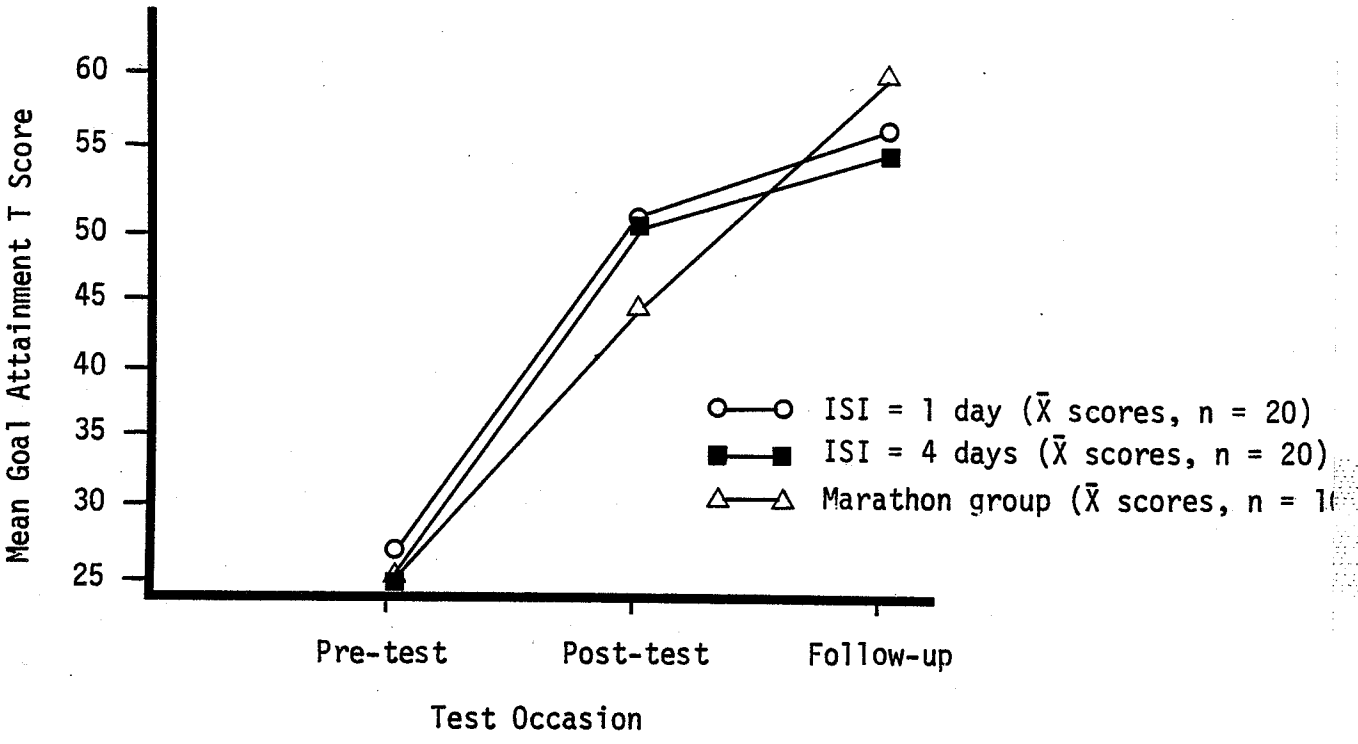

FIGURE 5: Covariance adjusted mean Goal Attainment T Scores as a function of session frequency and test occasions.

rate of improvement slowed during follow-up.

Summary-Outcome Measures. In summary of the outcome analyses discussed, it appears that over all measures (PSS and GAS) clients improved during the course of therapy and the follow-up period. There is evidence that subjects showed slight variations in rates of improvement during different phases of the study. These findings were outcome measure specific. Finally, and most importantly, there was no reliable evidence that overall improvement was differentially affected by the session frequency and duration variables nor did inclusion in the marathon group reliably and differential affect improvement. More specifically, the previously advanced hypotheses were not upheld with respect to the outcome measures used. That is, contrary to predictions, outcome was not differentially affected by the values of the frequency and duration variables, nor by the marathon condition.

Analysis-Process Measures. An analysis of covariance with the mean rater scores from the Therapy Equivalence Questionnaire used as a covariate was employed to analyse all therapy process measures, specifically the Jourard Self-Disclosure Questionnaire (JSDQ), the Client Expectation Questionnaire (EQ), and the therapist-client Relationship Questionnaire (RI). In all cases a mean score for each of these questionnaires was derived for each client, and these scores were used in the analysis. Two analyses of covariance were performed on each measure. A 2 x 2 Analysis of Covariance was used to analyse

for main effects and interactions of the duration and frequency variables. In addition a one-way analysis of covariance was performed across all five experimental groups in order to provide a means of comparison between the 10 hour marathon group and the 1-1, 1-2, 4-1, and 4-2 groups in which frequency and duration were manipulated.

Client Self-Disclosure. The 2 x 2 and the one-way analysis of covariance performed on the self-disclosure data yielded only one statistically significant result. This occured in the 2 x 2 analysis in which session duration was found to differentially affect the degree of self-disclosure evidenced ($p < .05$). All other main effects and interactions were not reliable ($p > .05$).

Figure 6 illustrates the covariance adjusted self-disclosure scores as a function of session duration and frequency. As can be seen, the 1 hour groups appear consistently superior in terms of self-disclosure to the 2 hour groups, although the difference is less in the 4 day than the 1 day condition. Figure 6 also illustrates the relative self-disclosure exhibited by the marathon group which appears more similar to the 1 hour condition than the 2 hour groups. A Newman-Keuls test for simple effects was performed between the mean self-disclosure scores of the 1 hour and 2 hour groups. No statistically significant differences were found although the difference between the 1-1 and 1-2 groups was marginal at the $p = .05$ level (Wr (35) = 19.43, $p > .05$). This indicates, as is illustrated in Figure 6, that the

TABLE 19

Analysis of Covariance (2x2) of the Self-Disclosure Scores

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Squares	F	P
A-Frequency	67.035	1	67.035	0.26	.611
B-Duration	1552.921	1	1552.921	6.09	.019
AB	278.000	1	278.000	1.09	.303
Error	8921.558	35	254.901		

TABLE 20

Analysis of Covariance (5 independent groups)

of the Self-Disclosure Scores

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	2275.359	4	568.839	2.06	.102
Error	12124.226	44	275.550		

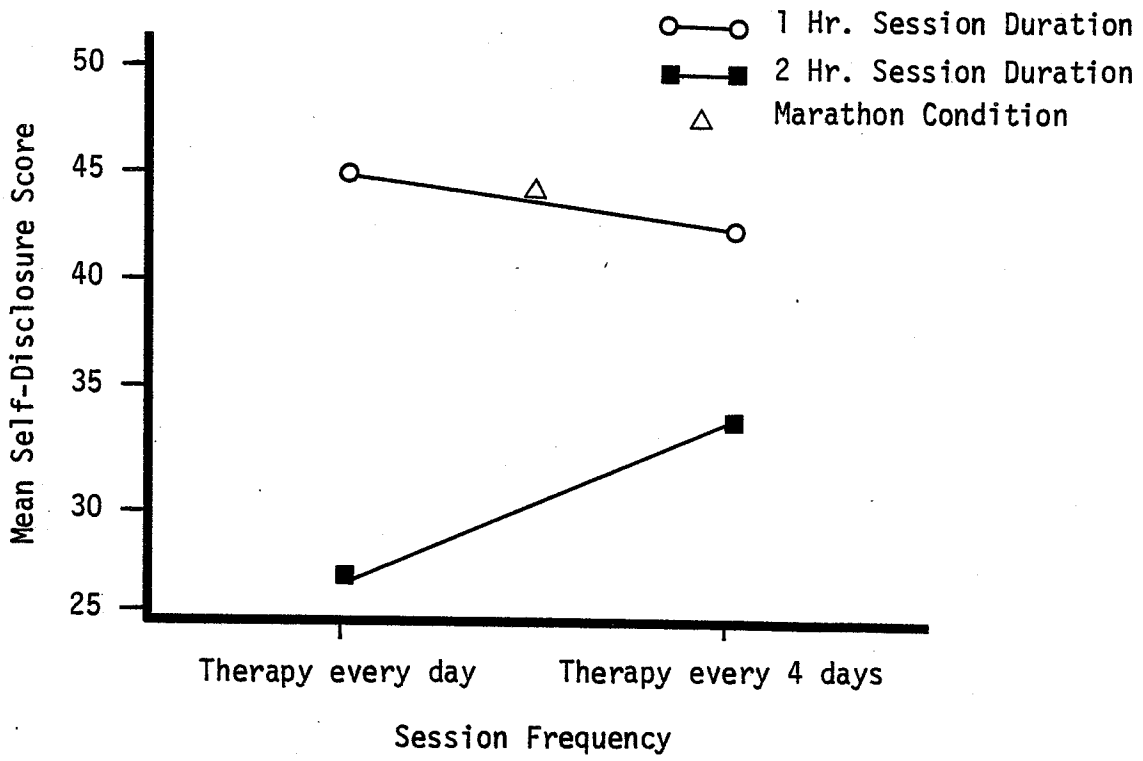

FIGURE 6: Covariance adjusted mean Self-Disclosure scores as a function of Session Duration and Session Frequency.

majority of the variance which accounts for the overall reliable duration effect, is derived from the difference between the 1 and 2 hour conditions within the 1 day group. In summary, overall results indicate the 1 hour groups superior to the 2 hour groups in degree of self-disclosure. This effect appears greater in the 1 day vs. the 4 day therapy groups. The marathon condition was found to be similar to the 1 hour group in extent of self-disclosure.

Relationship and Expectations Data. Identical analyses of covariance procedures to that used with the JSDQ were carried out on the Relationship and Client Expectation Questionnaires. As is evidenced in tables 21, 22, 23 and 24, none of the tested effects were found reliable indicating that frequency, duration and/or inclusion in the marathon condition did not differentially effect the client's expectations of therapy or the therapist-client relationship.

The grand mean across all five groups derived from the Relationship Questionnaire data was -.457. Since the range of scores is - 96 to + 96 and 0 is considered an ideal relationship on this instrument (Wiebe & Pearce, 1973), results indicate that excellent client-therapist relationships were established with the majority of clients participating in the research. Similarly, on the EQ the grand mean across all five groups was 3.671 indicating that the majority of clients felt that somewhere between "half" and "most" of their problems would be solved at the conclusion of therapy.

TABLE 21

Analysis of Covariance (2x2) of the Client Expectations Data

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	.111	1	.111	0.00	.968
B-Duration	102.095	1	102.095	1.45	.236
AB	16.116	1	16.116	0.23	.635
Error	2459.432	35	70.26		

TABLE 22

Analysis of Covariance (5 independent groups)

of the Client Expectations Data

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	147.968	4	36.992	0.44	.778
Error	3687.615	44	83.809		

TABLE 23

Analysis of Covariance (2x2) of the

Therapist-Client Relationship Data

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Frequency	2087.500	1	3087.500	0.37	.546
B-Duration	96.812	1	96.812	0.01	.915
AB	1094.125	1	1094.125	0.13	.719
Error	290927.125	35	8312.203		

TABLE 24

Analysis of Covariance (5 independent groups)

of the Therapist-Client Relationship Data

Source of Variation	Sums of Squares	Degrees of Freedom	Mean Square	F	P
A-Groups	15400.750	4	3850.187	0.49	.744
Error	347001.937	44	7886.406		

Summary-Process Measures. The previously advanced hypotheses were not upheld with respect to the process measures used. That is, the process of therapy, as measured by the Relationship and Client Expectation Questionnaires, was not systematically affected by the frequency or duration variables, nor by the marathon condition. Further with respect to client self-disclosure, results appear opposite to predictions in that the 1 hour groups were superior to the 2 hour groups.

DISCUSSION

In this study an attempt was made to systematically determine the effect of session frequency and session duration on the process and outcome of STTL psychotherapy. Analysis of the outcome measures employed indicate that while the clients in the study improved, there was no reliable differential effect of session frequency, duration and/or the marathon condition. The process measures indicated that the client's expectations of therapy were high, that clients self-disclosed to a high degree during therapy, and that the therapist-client relationships by in large were good. With the exception of the self-disclosure data, none of the process variables appear to be systematically related to the independent variables nor the eventual outcome of therapy. The following discussion will explore several hypotheses in an attempt to interpret the results of the study. This discussion will first explore the overall client improvement found, the differential client change evidenced and not evidenced, followed by suggestions for further research.

Overall Client Improvement

Comparison of data derived from the five summary scales of the

PSS to normative data presented by Spitzer et al., (1970), indicates that the mean pre-test scores of the present sample were as high or higher than the out-patient group used in standardization. Further, mean scores at the end of the follow-up period approximate those presented by Spitzer et al., for his normative community sample. This suggests that the sample used in this research was in need of therapy, and did improve with therapy. This conclusion is further fortified by the GAS data which is entirely consistent with the notion that the clients did improve. This general conclusion lends some support to those investigators who have indicated that STTL psychotherapy is a viable treatment technique for psychiatric disorders (Frank, 1974; Patterson et al., 1974; Rosenthal et al., 1971; Spoerl, 1975; Marmor, 1979; Cummings, 1977).

Given that positive change did occur, it is reasonable to ask how the change occurred and why. With reference to how change occurred, inspection of Figures 2 through 6 shows that with the majority of measures, group pre-therapy differences in psychopathology existed. Since a random assignment procedure was used we can only conclude that there was a failure of randomization due to the small sample size (N = 50). With the possible exception of the GAS data, all measures showed some degree of convergence of some of the groups at follow-up compared to pre-test scores. In contrast to past research (Gomes-Schwartz et al., 1978), this suggests that under the procedures used in this study, initial psychopathology differences did not

entirely dictate level of adjustment at follow-up. The fact that in most cases pre-test scores did not differ reliably, attenuates this conclusion somewhat.

In order to further explain the convergence of groups observed, we must look at rate differences within the various dependent measures. More specifically, Figures 2 through 6 indicate that across all outcome measures, the marathon group appears to improve at a greater rate during follow-up than the other four experimental conditions. With few exceptions the 1 day and 4 day groups appear to improve at equivalent rates throughout therapy and the follow-up period. An almost identical picture is obtained if the data is plotted as a function of the duration variable. Given that no reliable differences were found between groups at the post-test or follow-up periods, it can only be concluded that clients adjusted their rates of improvement so as to minimize their psychopathology in the total amount of time allowed by the therapist. That is, collapsing across duration, clients in the 1 day groups were permitted a median of 25.5 days from beginning of therapy until the final follow-up was complete. The 4 day groups were permitted a median of 58 days and the marathon group received 29 total days from beginning to end. Given that all clients had reduced their psychopathology to within normal limits at follow-up, and that they did not reliably differ in degree of psychopathology at this point, it is suggested that the setting of time limits in therapy is a critical variable. While it appears that session

frequency and duration do not directly or systematically affect the reduction of psychopathology in psychotherapy, an indirect effect is hypothesized in that clients will improve to an equivalent degree in a manner independent of the amount of time allowed from the beginning to the end of therapy by adjusting their rate of improvement in accordance with the amount of time permitted. Note that while past literature has indicated that limit setting is an important determinent of STTL psychotherapy outcome (Cohen, 1979; Cox, 1972; Deykin et al., 1975; Garner, 1970; Oxley, 1973; Proskauer, 1969, 1971; Rosenberg, 1975; Rosenthal & Levine, 1971), empirical verification of how this procedure effects client improvement has not been advanced. From the present study, it is suggested that the client must be aware of the total time allowed from the start to the very end of therapy so that they might adjust their rate of improvement to the time allowed.

In response to why the overall client change occured we turn to the process data gathered during therapy per se. As was indicated, client expectations were high, as was self-disclosure and the client-therapist relationships were close to ideal as indicated by the particular measures used. Past literature has suggested that high client expectations as to outcome, high self-disclosure and a good therapist-client relationship facilitates positive therapeutic outcomes (Barrett-Lennard et al., 1966; Frank et al., 1959; Goldstein & Shipman, 1961; Jourard, 1964, 1968; Lennard & Bernstein, 1960; Lipkin, 1954; Mowrer, 1964; Truax & Carkhuff, 1965; Rogers, 1957;

Martin et al., 1977; Lindsey et al., 1977; Richert, 1976; Gomes-Schwartz et al., 1978; Strassberg et al., 1977). In this study overall outcomes were positive thus supporting the suggested positive relationship between these variables and outcome. Further, in concordance with previously outlined literature (Bach, 1966; Barten, 1965; Cohen, 1969; Kornrich, 1965; Imber et al., 1957), it is suggested that the frequency of the sessions contributed to this result. That is, it is suggested that each group included in the study was a high frequency group in comparison with more the traditional once a week therapy condition, in that the least frequent group was seen 1.75 times per week. In line with previous literature the effect was to maximize the therapist-client relationship, client expectations and self-disclosure which in turn lead to client improvement across all conditions. This speculative conclusion suggests that had a one-session a week group been included in the design, this condition may have reduced the levels of the process variables measured, leading to differential improvement between the traditional one-session per week group and the high frequency groups. While this conclusion appears to parsimoniously explain the ceiling effect observed with the process measures used, other hypotheses can also be entertained. These alternatives will be discussed in the next section.

Differential Client Improvement

As was pointed out in the Results section, the only statistically reliable differential effect found in this research which cannot be easily dismissed on the basis of pre-therapy differences or other phenomena, occurred with the self-disclosure process variable. It was found that, overall, the 1 hour duration condition self-disclosed to a greater extent than the 2 hour groups. The marathon condition was similar to the 1 hour condition in amount disclosed. Anecdotal evidence derived during therapy can perhaps shed some light on this result. Within the 1 hour conditions it was often observed that the clients complained that their sessions were short. Similarly, in the 2 hour conditions clients expressed to the therapist or the data technician that 2 hours "seemed long". From this we could hypothesize that clients in the 1 hour conditions perceived their sessions as short and thus felt compelled to disclose more per session. In the 2 hour conditions the clients may have perceived their sessions as long and thus felt they had a lot of time to disclose. In both conditions a pattern of high or low disclosure per session may have been established because of the client's perceptions of the session duration. Although no anecdotal evidence is available to bring to bear on the marathon group, it is suggested that they felt compelled to disclose a great deal as they only had a single session. This may be termed a "now or never" phenomenon. These results stand in contrast to early speculations (Bach, 1966; Roth et al., 1969; Kornrich, 1965) that longer sessions may lead

to greater client disclosure. More importantly, since the differential disclosure evidenced in the present study was not reflected in therapy outcome the present results stand opposed to past literature which indicated a positive relationship between client self-disclosure and outcome (Jourard, 1964, 1968; Mowrer, 1964; Rogers, 1961; Truax & Carkhuff, 1965; Strassberg et al., 1977). A recent review by Gomes-Schwartz et al., (1978), points out that the relationship between client self-disclosure and outcome is unclear. Consistent to this position, it is suggested that further parametric research is required to clarify the role of client self-disclosure in psychotherapy.

Aside from the consistent improvement evidenced by clients over test occasions, and the duration results just discussed, no reliable differential effects that cannot be explained by pre-therapy differences can be attributed to the effect of the frequency and duration variables, or the marathon condition.

With reference to the duration variable, past literature has speculated that sessions longer than the traditional 1 hour may be more conducive to positive therapy outcomes, primarily because longer sessions allow for more ventilation (Kornrich, 1965; Freud, 1959; Bieber, 1957; Bychowski, 1957; Greenacre, 1959). The only empirical research done on the duration question was seriously compromised by methological problems, but found duration had an inverse relationship to outcome (Bierenbaum et al., 1976). The present research stands in direct contrast to the main body of literature in that shorter session

durations were found to provide greater self-disclosure, but this was not systematically reflected in outcome. Several hypotheses may be advanced for these findings. First, it may be that an insufficient number of values of the duration variable were explored. Perhaps if longer (e.g. 3 hours) or shorter (e.g. 30 minutes) values had been included, systematic outcome differences may have been realized. A more likely hypothesis, is that failure to find differences resulted from inadequate measures. In line with Taft (1933), we not only should have manipulated duration quantitatively but also qualitatively, or at least have gathered data as to the quality of the sessions. An attempt was made in this direction with the expectance, relationship and self-disclosure measures, however, it appears that they did not provide sufficient data. In order to determine the effect of session duration we must gather a large variety of process measures, since undoubtedly the length of the session cannot be expected to produce outcome differences alone, as duration is simply a measure of time. It is suggested that only by considering how that time is spent can an answer be found. Future research on session duration must therefore consider the possible interaction between duration viewed quantitatively and qualitatively.

Referring to the frequency variable, other than the suggested rate of improvement phenomenon, any apparent differential effects of frequency or the marathon condition can be explained via pre-therapy differences. The majority of past research has suggested that a

positive relationship exists between session frequency and therapy outcome (Heinicke, 1969; Dreblatt & Weatherley, 1964; Imber et al., 1957; Cappon, 1964; Bierenbaum et al., 1976). A similar relationship has been postulated between the frequency and process measures (Bach, 1966; Barten, 1965; Cohen, 1969; Kornrich, 1965; Imber et al., 1957). On this basis similar expectations were advanced relative to this research. Present results, however, do not agree with previous findings. A number of hypotheses may be advanced to account for this lack of agreement.

First, as was pointed out earlier, past research suffered from serious methological problems which could be expected to compromise their results. In the present study a number of these problems were resolved. Foremost among these was the manipulation of session frequency while holding constant the total number of hours of therapy received. This was not done in past frequency research. On the basis of these improvements, it may be speculated that past research results were in error and frequency is not a potent determinant of outcome in psychotherapy. Aside from the dangers involved in accepting the null hypothesis, this conclusion appears highly speculative given the number of studies which did find a positive differential relationship between frequency and the outcome of psychotherapy despite serious design and methodology flaws.

An equally speculative conclusion which also approaches acceptance of the null hypothesis is that a sufficient range of frequency levels

were not used in the research to allow for a differential effect of frequency on outcome. As noted earlier, it may be argued that all experimental conditions were high frequency and that no comparison is afforded with a traditional 1 hour, once a week group. The minimum frequency included in this research was evidenced in the 4 day groups, which is paramount to 1.75 sessions per week, almost twice that of the traditional regimen. Support for this argument comes from the fact that in terms of therapy process, client expectations, self-disclosure and the therapist-client relationships were near or at maximum as indicated by the measures used. It could be speculated that this occurred because all clients were seen under high frequency conditions thus maximizing therapeutic gain and thus differential effects of frequency could not occur. While this argument appears worthy of mention, it is a tautology and requires acceptance of the null hypothesis and for those reasons alone must be viewed as highly speculative. Only by including a wider range of frequency values in future research can these questions be realistically approached.

Another, perhaps less speculative hypothesis is that clients in this research suffered from a lesser degree of psychopathology at the outset than the clients used in past studies, and that an insufficient range of improvement was possible to allow for differential frequency or marathon effects. As was discussed, all clients appear to have had sufficient psychopathology at the outset to match

a normative out-patient sample presented by Spitzer et al., (1970) for the PSS summary scales. Also, the clients in the present study appear to have improved to within the normal limits set out by Spitzer's data derived from a community sample. However, some of the literature reporting positive frequency results does indicate that clients may have had a higher degree of disturbance at the outset than the present sample, as they included some psychotics, personality disorders as well as hospitalized patients (Dreblatt & Weatherley, 1965; Imber et al., 1957; Cappon, 1964). In the present research the majority of the clients were psychoneurotics or situational reactions and all were out-patients (see Appendix A). It is suggested that had more therapeutically intractable clients been included this would have allowed for a greater range of improvement as a result of session frequency and the marathon condition. In summary, the lack of differential effects of frequency and the marathon condition may be due to ceiling effects attributable to restricted client sample selection with reference to degree of psychopathology. An additional hypothesis, similar to one advanced for duration, is that session frequency was manipulated quantitatively in this research not qualitatively. Had an attempt been made to differ the content of therapy qualitatively across frequency conditions, results may have indicated a frequency by content, and/or therapeutic quality interaction, and thus a systematic relation between frequency and psychotherapy outcome. Speculation on the shape of that inter-

action, if present, is beyond the scope of this paper and would require empirical verification.

A final speculation, which relates to the entire experiment, concerns the use of the single therapist and the single therapeutic technique. It is possible that the therapist's skills and/or the high potency of the STTL psychotherapy technique produced an uniformly good outcome thus orverriding the effect of the frequency and duration variables and the marathon condition. Some support for this conclusion may be derived from the high levels of the process variables measured in this study. These and other issues will be noted in the next section.

Future Research

By way of summarizing the questions and partial answers provided by this study, a summary of possible research in this area will be advanced.

Future research should include a wider range of session frequency and duration variables, in that the present study repeatedly suggested that differential effects may have occurred given other values of these variables. As mentioned, of particular interest to the frequency dimension would be the inclusion of a traditional one session per week group for comparison purposes.

Future research should include a more heterogeneous client sample

which would allow for a greater range of reduction in psychopathology and thereby possibly indicate differential frequency and duration effects on process and outcome.

As was discussed with reference to session duration, future research should manipulate frequency and duration values in terms of the client's psychological perception of their dimensions rather than simply in terms of absolute time. As was indicated, clients may view long session durations (2 hours) as short and visa versa, thus rendering interpretation of results virtually impossible.

In response to the problems possible with the use of a single therapist and/or technique, future research must include multiple therapists and techniques thereby reducing the possibility that therapist and/or technique potency will override the effects of session frequency, duration or marathon manipulations.

Of particular importance is the apparent phenomenon that clients appeared to adjust their rate of improvement in accordance with the total amount of time allowed to complete therapy and the follow-up period. It was suggested that this may be an indirect effect of session frequency values. However, this apparent phenomenon could as easily be correlated with or attributed to a whole host of other variables. To name but a few categories, the effect may be therapist, therapy or client type specific. If after investigation of the generalizability of this apparent phenomenon it appears to be an indirect effect of frequency, it would be appropriate to experimentally

manipulate the amount of time allowed for therapy and thereby define the limits within which this apparent rate phenomenon operates.

Perhaps the most overwhelming suggestion for research found in this study is that quantitative manipulation of time variables such as session frequency and duration will provide only partial answers at best. The reasoning here is no matter how long or how frequent the session, the quality of the content of these sessions will largely affect the outcome. Thus, future research must look at the interaction between time variables and session content and quality by actively manipulating carefully defined process variables and measuring the multifactorial outcome on a wide variety of sensitive outcome measures.

A final point which bears on the results of this study, comes from an article by Smith and Glass (1977). These authors carried out a statistical analysis of the analyses of nearly 400 controlled psychotherapy outcome studies. They found that individuals who undergo psychotherapy or behaviour therapy are generally better off than untreated controls, however the type of therapy that they were involved in (systematic desensitization, behaviour modification, Rogerian, psychodynamic, etc.) made little or no difference in the quality of the outcome. These results suggest that simply involving a client in a therapeutic relationship is enough to bring about positive change. With respect to the results of the present research, this point could easily apply, given that the independent variables

of frequency, duration and the marathon condition had little or no effect on outcome.

There is, however, another conclusion that could be drawn from the Smith and Glass (1977) study. Their results suggest that there may be particular elements common to many forms of therapy, which produce equivalent outcomes. This in turn demands that we define and investigate the precursors, the process and outcome variables of our psychotherapy research in a precise and parametric manner. By so doing we may finally depart from the question "does psychotherapy work", such as is addressed by Smith and Glass (1977), and move on to the more central questions of "why" and "how does it work"?

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APPENDIX A

Subject Demographic and Diagnostic Data

Session Duration (hr.)	Intersession Interval (day)	Subject Number	Sex (Male-M) (Female-F)	Age	Marital Status (Married-M) (Single-S)	Number Years in School	# of Times in Outpatient Psychotherapy Previously	Diagnosis
1	1	10	F	27	M	15	1	Depressive Neurosis
1	1	11	F	31	S	14	0	Depressive Neurosis
1	1	12	M	41	S	8	1	Adult Adjustment Reaction
1	1	13	F	31	M	12	0	Adult Adjustment Reaction
1	1	14	M	24	S	10	1	Depressive Neurosis
1	1	15	F	18	S	11	0	Withdrawing Reaction
1	1	16	F	28	M	11	0	Depressive Neurosis
1	1	17	M	24	M	11	1	Marital Maladjustment
1	1	18	F	21	M	12	0	Adult Adjustment Reaction
1	1	19	F	28	M	15	0	Depressive Neurosis
2	1	20	F	22	S	12	0	Adult Adjustment Reaction
2	1	21	F	22	S	12	0	Depressive Neurosis

APPENDIX A

Subject Demographic and Diagnostic Data

Session Duration (hr.)	Intersession Interval (day)	Subject Number	Sex (Male-M) (Female-F)	Age	Marital Status (Married-M) (Single-S)	Number Years in School	# of Times in Outpatient Psychotherapy Previously	Diagnosis
2	1	22	M	25	S	17	1	Paranoid Personality
2	1	23	F	31	M	12	0	Depressive Reaction
2	1	24	M	28	M	14	1	Anxiety Neurosis
2	1	25	M	47	M	9	0	Hypochondriacal Neurosis
2	1	26	M	28	M	16	1	Anxiety Neurosis
2	1	27	M	32	S	12	0	Depressive Neurosis
2	1	28	F	18	S	11	1	Adult Adjustment Reaction
2	1	29	F	20	M	10	4	Hysterical Personality
1	4	30	F	38	S	13	1	Asthenic Personality
1	4	31	F	23	S	14	5	Depressive Neurosis
1	4	32	M	32	M	12	1	Depressive Neurosis
1	4	33	F	22	S	12	1	Adult Adjustment Reaction
1	4	34	M	38	M	12	9	Cyclothymic Personality

APPENDIX A

Subject Demographic and Diagnostic Data

Session Duration (hr.)	Intersession Interval (day)	Subject Number	Sex (Male-M) (Female-F)	Age	Marital Status (Married-M) (Single-S)	Number Years in School	# of Time in Outpatient Psychotherapy Previously	Diagnosis
1	4	35	M	25	S	12	1	Depressive Neurosis
1	4	36	M	24	S	12	0	Other Neurosis
1	4	37	M	27	S	12	0	Depressive Neurosis
1	4	38	F	26	S	11	0	Depressive Neurosis
1	4	39	F	43	S	14	1	Paranoid Personality
2	4	40	F	27	M	12	4	Adult Adjustment Reaction
2	4	41	M	28	M	11	0	Adult Adjustment Reaction
2	4	42	F	31	S	12	1	Passive-Aggressive Personality
2	4	43	F	28	S	12	0	Anxiety Neurosis
2	4	44	F	23	M	13	0	Depressive Neurosis
2	4	45	F	27	M	12	1	Depressive Neurosis
2	4	46	F	21	M	12	0	Hysterical Personality
2	4	47	F	40	M	12	1	Anxiety Neurosis

APPENDIX A

Subject Demographic and Diagnostic Data

Session Duration (hr.)	Intersession Interval (day)	Subject Number	Sex (Male-M) (Female-F)	Age	Marital Status (Married-M) (Single-S)	Number Years in School	# of Times in Outpatient Psychotherapy Previously	Diagnosis
2	4	48	F	35	M	10	1	Depressive Neurosis
2	4	49	F	47	M	11	0	Anxiety Neurosis
Marathon	Marathon	50	F	31	S	12	0	Adult Adjustment
Marathon	Marathon	51	F	23	S	16	3	Inadequate Personality
Marathon	Marathon	52	F	44	M	9	1	Depressive Neurosis
Marathon	Marathon	53	F	37	S	12	0	Depressive Neurosis
Marathon	Marathon	54	F	25	M	12	0	Adult Adjustment Reaction
Marathon	Marathon	55	F	32	M	12	0	Adult Adjustment Reaction
Marathon	Marathon	56	F	21	S	14	1	Adult Adjustment Reaction
Marathon	Marathon	57	F	18	S	12	2	Depressive Neurosis
Marathon	Marathon	58	M	34	S	12	0	Pedophilia
Marathon	Marathon	59	M	29	S	14	0	Depressive Neurosis

APPENDIX B

Therapy Equivalence Questionnaire

INSTRUCTIONS: Each side of each cassette tape contains five 5-minute recordings of a series of therapy sessions for one subject. Read and answer the questions below by marking 1, 2, 3, 4 or 5 on the accompanying scales. Please do not mark the scales until you have listened to the entire 25 minutes of the tape.

1. The therapist-client relationship appears open and honest.
   1 2 3 4 5
   not at all always true

2. The therapist appears to concentrate on specific goals.
   1 2 3 4 5
   not at all always true

3. The therapist uses confrontation tactics.
   1 2 3 4 5
   not at all always true

4. The therapist risks communication in emotionally charged areas.
   1 2 3 4 5
   not at all always true

5. The therapist attempts to instill hope in the client.
   1 2 3 4 5
   not at all always true

6. The therapist emphasizes current not past problems.
   1 2 3 4 5
   not at all always true

APPENDIX C

Client Expectations Questionnaire

INSTRUCTIONS: Please read and answer the questions below. Indicate your answer by circling the number (1, 2, 3, 4 or 5) preceding your choice. Answer the questions as you feel now, at this moment. Please answer both questions by circling only one number. Be completely honest in your answer. Your therapist will not be shown your answers. To ensure this, please do not write your name on this sheet.

I feel my therapist will solve

1. none of my problems.
2. a few of my problems.
3. about half of my problems.
4. most of my problems.
5. all of my problems.

At the end of my therapy sessions, I feel

1. none of my problems will be solved.
2. a few of my problems will be solved.
3. about half of my problems will be solved.
4. most of my problems will be solved.
5. all of my problems will be solved.

APPENDIX D

Relationship Inventory

INSTRUCTIONS: Please do not write your name on this form. It will be coded anonymously and your answers used for research purposes only.

Below are listed a variety of ways that one person could feel or behave in relation to another person. Please consider each statement with respect to whether you think it is true or not true in your present relationship with your therapist. Mark each statement in the left margin according to how strongly you feel it is true or not true. Please mark every question. Write in +1, +2, +3, or -1, -2, -3, to stand for the following answers:

+1: I feel that it is probably true, or more true than untrue.

+2: I feel it is true.

+3: I strongly feel that it is true.

-1: I feel that it is probably untrue, or more untrue than true.

-2: I feel it is not true.

-3: I strongly feel that it is not true.

___ 1. He feels deep affection for me.

___ 2. He understands my words but not the way I feel.

___ 3. He behaves just the way that he is, in our relationship.

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Relationship Inventory

___ 4. His general feeling toward me varies considerably.

___ 5. He seems to really value me.

___ 6. He does not realize how strongly I feel about some of the things we discuss.

___ 7. There are times when I feel that his outward response is quite different from this inner reaction to me.

___ 8. Sometimes he is warmly responsive to me, at other times, cold or disapproving.

___ 9. He is interested in me.

___ 10. When I do not say what I mean at all clearly, he still understands me.

___ 11. He does not try to mislead me about his own thoughts or feelings.

___ 12. If I feel negatively toward him, he responds negatively to me.

___ 13. He appreciates me.

___ 14. He appreciates what my experiences feel like to me.

___ 15. He pretends that he likes me or understands me more than he really does.

___ 16. Sometimes he responds quite positively to me, at other times he seems indifferent.

___ 17. He regards me as a disagreeable person.

___ 18. He is interested in knowing what my experiences mean to me.

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Relationship Inventory

___ 19. I feel that he is being genuine with me.

___ 20. Depending on his mood, he sometimes responds to me with quite a lot more warmth and interest than he does at other times.

___ 21. He cares about me.

___ 22. He usually understands all of what I say to him.

___ 23. I don't think that he is being honest with himself about the way he feels toward me.

___ 24. He respects me.

___ 25. His own attitudes toward some of the things I say or do, stop him from really understanding me.

___ 26. He is disturbed whenever I talk about or ask about certain things.

___ 27. He does not really care what happens to me.

___ 28. I feel that I can trust him to be honest with me.

___ 29. At times he feels contempt for me.

___ 30. Sometimes he is not at all comfortable but we go on, outwardly ignoring it.

___ 31. He likes seeing me.

___ 32. I do not think that he hides anything from himself that he feels with me.

APPENDIX E

Relationship Inventory Standardization Data

The original Barrett-Lennard (1962) Relationship Inventory measured five aspects of the therapist-client relationship. Specifically it measured the client's perception of the degree of empathic understanding of the therapist, the level of regard of the therapist for the client, the unconditionality of this regard, the congruence or variability in the therapist's feelings toward the client and the therapist's willingness to be known to the client. Fuller definitions of these concepts are contained in the text of this paper. The items of the RI were developed from Rogers' conditions of therapy paper (Rogers, 1957) and Brown's relationship Sort (Brown, 1954), as well as from discussions and written comments from various staff members of the University of Chicago Counseling Center (Barrett-Lennard, 1962). The main body of reliability and validity evidence for the RI comes from an extensive investigation by Barrett-Lennard (1962).

Barrett-Lennard (1962) reports a formal content validation of the items for the RI. Definitions of the five variables were given to five experienced client-centered counselors and they were asked to classify each item as a positive or negative indicator of the variable in question and to give a neutral rating to irrelevant or ambiguous items. Results indicated perfect agreement between judges on all items except four. Three of these items were eliminated and

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Relationship Inventory Standardization Data

the fourth retained because only one judge had assigned it a neutral rating. Three other consistantly rated items were eliminated because of content duplication. In the final form of the RI on which standardization data was generated, there were 85 items, with each of the five variables represented by 16-18 items.

Realiability and validity evidence for the RI was derived from a sample of 42 therapy clients and 21 different therapists from the University of Chicago Counseling Center. The purpose of the research was to establish split-half reliabilities for each of the scales and to determine the independence of each of the scales by determining the scale intercorrelations. The research also attempted to determine if the outcomes of therapy could be predicted by the quality of the therapist-client relationship as measured by the RI. If the RI could predict therapy outcomes this would provide evidence of the validity of the measure. That is, given Rogers' (1957) theoretical contention that the five relationship factors contained in the RI are necessary conditions for positive therapeutic outcomes, then the RI should be able to predict therapy outcomes for it to be valid as a measure of the therapeutic relationship.

In the study each of the 21 therapists had from one to four clients. The clients ranged in age from 19 to 45 years with a mean

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Relationship Inventory Standardization Data

of 28 years and a standard deviation of 5.9 years. Sixty per cent were men and nearly all had some college education. Length of therapy ranged from 7 to 96 interviews, with a mean of 33 interviews (Barrett-Lennard, 1962).

Subjects answered the RI after five therapy sessions and at pre-determined later points. Client change data was gathered from therapist rating measures and pre-therapy and post-therapy scores on the Q adjustment, Taylor Manifest Anxiety Scale, and the MMPI Depression Scale (Barrett-Lennard, 1962).

The items of each of the five individual scales were divided in half and administered to the clients after five therapy interviews. Results indicated split-half correlation coefficients ranging from 0.82 on the willingness to be known scale to 0.93 on level of regard, with a mean intracorrelation correlation of 0.86.

Product-moment intercorrelations of the five scales were calculated after five therapy interviews. The mean intercorrelation of the scales was 0.45. Taken together with the mean split-half reliability of 0.86, these results indicate each of the scales measure different things and are not merely reflecting the client's general satisfaction or dissatisfaction with the relationship (Barrett-Lennard, 1962).

The main experimental hypotheses with regard to whether the RI

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could predict therapy outcome were: (a) that each scale would reliably predict the outcome of therapy, and (b) that results for two matched groups of clients with relatively expert and nonexpert therapists would reveal that cases with experts give high scores on each relationship measure and show evidence of greater change than the cases with nonexperts.

Results indicated that these hypotheses were statistically supported for four of the relationship scales thus attesting to the validity of the measure in that it appears to measure what it proports to measure. Results did not support the validity of the willingness to be known scale and thus the authors suggested dropping it from the RI (Barrett-Lennard, 1962).

In a more recent investigation Wiebe and Pearce (1973) carried out an item analysis and revision of the Barrett-Lennard Relationship Inventory. The purpose of their study was to identify specific items that do not discriminate between high and low scores or are unreliable.

Fifty-seven university freshmen were required to describe a relationship with a friend on the RI. Coefficients of internal consistency, interscale correlations, discrimination indices and item total scale correlations were calculated. Results indicated consistently similar inter and intra scale correlations to those reported

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by Barrett-Lennard (1962). They also indicated that a shorter and more robust RI can be derived by including only those items which have an item-scale correlation of greater than 0.50, and which discriminate significantly ($p < .05$) between high and low scorers. This revised form of the RI contains four scales (willingness to be known omitted) consisting of 32 items. This revised scale is used in the present research and is contained in Appendix D.

APPENDIX F

Jourard Self-Disclosure Questionnaire

INSTRUCTIONS: On the score sheet provided, please respond to each statement below by indicating the extent to which you have discussed this aspect of yourself with your therapist by placing a 0, 1, 2 or X in the space provided.

0 means: You have told your therapist nothing about this aspect of yourself.

1 means: You have talked to your therapist only in general terms about this aspect of yourself.

2 means: You have talked to your therapist in full detail about this aspect of yourself.

X means: You have lied or misrepresented yourself to your therapist about this aspect.

If one of these answers does not exactly fit, put the one that is closest to what you want to answer. Under no circumstances should you put any answer other than the 0, 1, 2 or X indicated.

Please note that your therapist will not be shown your answers at any time, now or in the future. To insure this, do not write your name on the score sheet. It will be number coded by a technician.

1. What I think and feel about religion; my personal religious views.
2. My personal opinions and feelings about other religious groups

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Jourard Self-Disclosure Questionnaire

than my own, e.g., Protestants, Catholics, Jews, atheists.

3. My views on communism.
4. My views on the present government--the president, government policies, etc.
5. My views on the question of racial integration in schools, transportation, etc.
6. My personal views on drinking.
7. My personal views on sexual morality--how I feel that I and others ought to behave in sexual matters.
8. My personal standards of beauty and attractiveness in women--what I consider to be attractive in a woman.
9. The things that I regard as desirable for a man to be--what I look for in a man.
10. My feelings about how parents ought to deal with children.
11. My favorite foods, the ways I like food prepared, and my food dislikes.
12. My favorite beverages, and the ones I don't like.
13. My likes and dislikes in music.
14. My favorite reading matter.
15. The kinds of movies that I like to see best; the TV shows that are my favorites.
16. My tastes in clothing.

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Jourard Self-Disclosure Questionnaire

17. The style of house, and the kinds of furnishings that I like best.
18. The kind of party, or social gathering that I like best, and the kind that would bore me, or that I wouldn't enjoy.
19. My favorite ways of spending spare time, e.g., hunting, reading, cards, sports events, parties, dancing, etc.
20. What I would appreciate most for a present.
21. What I find to be the worst pressures and strains in my work.
22. What I find to be the most boring and unenjoyable aspects of my work.
23. What I enjoy most, and get the most satisfaction from in my present work.
24. What I feel are my shortcomings and handicaps that prevent me from working as I'd like to, or that prevent me from getting further ahead in my work.
25. What I feel are my special strong points and qualifications for my work.
26. How I feel that my work is appreciated by others (e.g., boss, fellow-workers, teachers, husband, etc.).
27. My ambitions and goals in my work.
28. My feelings about the salary or rewards that I get for my work.
29. How I feel about the choice of career that I have made--whether or not I'm satisfied with it.

APPENDIX F

Jourard Self-Disclosure Questionnaire

30. How I really feel about the people that I work for, or work with.
31. How much money I make at my work, or get as an allowance.
32. Whether or not I owe money; if so, how much.
33. Whom I owe money to at present; or whom I have borrowed from in the past.
34. Whether or not I have savings, and the amount.
35. Whether or not others owe me money; the amount, and who owes it to me.
36. Whether or not I gamble; if so, the way I gamble, and the extent of it.
37. All of my present sources of income--wages, fees, allowance, dividends, etc.
38. My total financial worth, including property, savings, bonds, insurance, etc.
39. My most pressing need for money right now, e.g., outstanding bills, some major purchase that is desired or needed.
40. How I budget my money--the proportion that goes to necessities, luxuries, etc.
41. The aspects of my personality that I dislike, worry about, that I regard as a handicap to me.
42. What feelings, if any, that I have trouble expressing or controlling.

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Jourard Self-Disclosure Questionnaire

43. The facts of my present sex life--including knowledge of how I get sexual gratification; any problems that I might have; with whom I have relations, if anybody.
44. Whether or not I feel that I am attractive to the opposite sex; my problems, if any, about getting favorable attention from the opposite sex.
45. Things in the past or present that I feel ashamed and guilty about.
46. The kinds of things that just make me furious.
47. What it takes to get me feeling real depressed and blue.
48. What it takes to get me real worried, anxious and afraid.
49. What it takes to hurt my feelings deeply.
50. The kinds of things that make me especially proud of myself, elated, full of self-esteem or self-respect.
51. My feelings about the appearance of my face--things I don't like, and the things that I might like about my face and head--nose, eyes, hair, teeth, etc.
52. How I wish I looked; my ideals for overall appearance.
53. My feelings about different parts of my body--legs, hips, waist, weight, chest, or bust, etc.
54. Any problems and worries that I had with my appearance in the past.

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Jourard Self-Disclosure Questionnaire

55. Whether or not I now have any health problems--e.g., trouble with sleep, digestion, female complaints, heart condition, allergies, headaches, piles, etc.
56. Whether or not I have any long-range worries or concerns about my health, e.g., cancer, ulcers, heart trouble.
57. My past record of illness and treatment.
58. Whether or not I now make special efforts to keep fit, healthy, and attractive, e.g., calisthenics, diet.
59. My present physical measurements, e.g., height, weight, waist, etc.
60. My feelings about my adequacy in sexual behavior--whether or not I feel able to perform adequately in sex-relationships.

APPENDIX G

Jourard Self-Disclosure Questionnaire Standardization Data

Pedersen and Higbee (1968) used a correlational procedure suggested by Campbell and Fiske (1959) in order to verify the validity of the JSDQ. The procedure involved the use of a multi-trait-multimethod matrix composed of the correlations among several measures of self-disclosure, specifically the 60-item JSDQ, a similar 40-item inventory (Powell & Jourard, 1963), and a Social Accessibility Scale (Rickers-Ovsiankiwa & Kusmin, 1958). The procedure involved an analysis of the correlation matrices for both the convergent and divergent validity and the three measures, from which the construct validity of each of the measures was inferred.

The three measures of self-disclosure were administered during two one-hour class periods to 107 introductory psychology students. The subject's responses were machine scored and the correlations and resultant matrices for the three measures were established.

Results indicated that the JSDQ, to be used in the present research, had both convergent and discriminant validity suggesting that the measure also has construct validity or measures what it proports to measure (Pedersen & Higbee, 1968).

In an extensive review of the self-disclosure literature, Cozby (1973) reports that the JSDQ appears to have little predictive validity. That is, it has been shown to be inaccurate in predicting

APPENDIX G

Jourard Self-Disclosure Questionnaire Standardization Data

what a subject will disclose in the future. However, Cozby's survey does point out that the JSDQ has been found valid as a measure of what a subject has disclosed in the past.

Since the JSDQ has been shown to have construct validity (Pedersen & Higbee, 1968) and is a valid measure of past disclosure (Cozby, 1973), it is deemed an appropriate measure of past self-disclosure in the present research.

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

(Second Ed.)

Symptom and Role Impairment Scales of PSS Second Ed.

INAPPROPRIATE AFFECT - APPEARANCE - BEHAVIOR (IN)

face is dirty
hair is unkempt
clothes are dirty
clothes are bizarre
talks to self
inappropriate laughter
laughs foolishly
constantly gay
undresses or makes sexual adv.
poses or contorts body

CATATONIC BEHAVIOR (CT)

poses or contorts body

SILLINESS (SL)

laughs foolishly

MATE ROLE (MR)

upset by presence of mate
frequent quarrels with mate
frequent physical violence
no one enjoyed together
no social activities together
little conversation with mate
rare intimate talk with mate
coitus less than once a week
coitus less than 1 X in 2 weeks
coitus less than 1 X in a month

CONVERSION REACTION (CV)

conversion reaction

VISUAL HALLUCINATIONS (VH)

visual hallucinations

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

INTERVIEW BELLIGERENCE - NEGATIVISM (BN)

refuses to shake hands
deliberately evasive
shouts or yells
curses or is obscene
expresses hatred
looks angry
bangs fist or stamps feet
tears or throws
tries to start arguments
attempts to leave room
makes menacing gesture
refuses to give details
objects to interview
accuses interviewer
is sarcastic or insulting
resists instruction

ALCOHOL ABUSE (AA)

admits alcohol problem
drinks alone
drinks 4 times daily
drinks continuously
drink changes behavior
intoxicated twice a week
amnesia while drunk
sick from drinking
compulsive drinking
must drink to feel good
drinks and skips meals
drinks on job
drinks to stupor
alcoholic tremors
alcoholic binges
intoxicated most of time

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

AGITATION - EXCITEMENT (AE)

talks on and on
speaks rapidly
alternating facial expression
scratches self
fingers drum or foot taps
moves about restlessly
fidgets or squirms

GRANDIOSITY (GR)

grandiose self appraisal
voices exalt
delusion of power or knowledge
claims famous identity
nondelusional grandiosity
boasting

ANTISOCIAL IMPULSES OR ACTS (AS)

minor illegal acts
serious illegal acts
illegal income
steals
trouble with police
illegal act impulses
unmoved by antisocial acts

REPORTED OVERT ANGER (OA)

has fits of anger
frequently loses temper
hits people
frequently hits people
inflicted serious injury
fear may injure others

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

SUICIDE - SELF MUTILATION (SU)

- suicidal thoughts
- method of suicide
- suicidal intent
- suicide gesture or attempt
- ideas of self injury
- injures himself
- fear may injure self

GUILT (GU)

- accuses self of sin
- guilt feelings
- says his guilt is known
- feels punished
- wants punishment
- expresses regrets

ROLES (RC)

- complete wage earner sec.
- complete housekeeper sec.
- complete student sec.
- complete mate sec.
- complete parent sec.
- complete insight sec.
- no role psychopathology

PERSECUTORY DELUSIONS (PD)

- people talk about him
- claims conspiracy against him
- claims he is persecuted
- feels controlled
- says his mind is read

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

RETARDATION - LACK OF EMOTION (RL)

- does not smile
- appears preoccupied
- ignores interviewer
- long pauses in speech
- voice faint
- voice monotonous
- few or no answers
- talks in brief phrases only
- mute
- speaks slowly
- emotionless about problems
- impassive face
- keeps same posture
- psychomotor retardation
- keeps eyes closed

ELATED MOOD (EL)

- has felt elated
- constantly gay

DAILY ROUTINE - LEISURE TIME IMPAIRMENT (DR)

- excessive time dressing
- fear prevents activity
- thoughts impair routine
- compul. time consuming
- stays in bed
- cannot arise from sleep
- stays in house
- he insists on companion
- avoids forms of transportation
- financial support from others
- poor financial judgment
- practically no recreation
- less recreation than usual
- is poor at usual recreation
- can't function

AUDITORY HALLUCINATIONS (AH)

- auditory hallucinations
- auditory halluc. daily

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

DEPRESSION - ANXIETY (DA)

- poor appetite
- feels tired
- bothered by appearance
- no interest in appearance
- worries a lot
- many fears
- fears insanity
- morbid fear of future
- phobia
- attacks of panic
- bothered by anxiety
- continually anxious
- feels restless
- bothered by sadness
- continually depressed
- feels like crying
- accuses self of sin
- feels inadequate
- guilt feelings

DEPRESSION - ANXIETY (Cont'd)

- says he is humorless
- irritable or upset
- broods
- obsessions
- compulsion
- indecisive
- cannot concentrate
- says has poor memory
- thinks of his death
- has trouble sleeping
- uncomfortable when traveling
- less interest than usual
- no interest or loses interest
- enjoys nothing
- no sexual desire
- sexually impaired
- hopeless towards future
- says he is aimless
- expresses regrets

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

SPEECH DISORGANIZATION (SD)

- neologisms
- blocking
- perseveration
- occasionally incoherent
- frequently incoherent
- mostly incoherent
- flight of ideas
- loose associations
- clang associations
- speech obscure
- rambles
- irrelevant
- circumstantial

SEX DEVIATION (SX)

- perversions
- homosexual acts

WAGE EARNER ROLE (WR)

- works part time or temporary
- missed work when expected
- undue dislike for job
- no job interest or satisfaction
- work difficult or overwhelming
- work impairment some of time
- work impairment all of time
- briefly unable to work
- must leave work area
- fails to meet standards
- frequent job changes
- present job lower prestige
- lost job

VALIDITY CHECK (VL)

- possible delus. or halluc.
- many items doubtful

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

SUSPICION - PERSECUTION - HALLUCINATIONS (SP)

- complains about peers
- complains about authority
- cannot trust others
- feels pushed around
- people talk about him
- olfactory hallucinations
- auditory hallucinations
- voices threaten
- auditory halluc. daily
- visual hallucinations
- ideas of reference
- claims hallucination real
- acts on hallucination
- acts on delusion
- claims conspiracy against him
- claims he is persecuted
- feels controlled
- says his mind is read

DISSOCIATION (DI)

- amnesia or seizure
- things appear distorted
- things seem unreal

OBSESSIONS - COMPULSIONS (OC)

- obsessions
- compulsions
- compulsions time consuming

LACK OF EMOTION (LE)

- does not smile
- voice monotonous
- emotionless about problems
- impassive face

SOMATIC DELUSIONS OR HALLUCINATIONS (SM)

- somatic delusions
- says body changed or has odor
- somatic hallucinations

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

SOMATIC CONCERNS (SC)

- numerous aches and pains
- conversion reaction
- somatic delusion
- palpitations or dizziness
- amnesia or seizure
- somatic preoccupation
- says body changed or has odor
- somatic hallucinations
- harps on physical complaints

DEPRESSION - SUICIDE (DS)

- bothered by sadness
- continually depressed
- feels like crying
- suicidal thoughts
- method of suicide
- suicidal intent
- suicide gesture or attempt
- sad expression
- cries

HOUSEKEEPER ROLE (HR)

- claims poor housekeeper
- too high housekeeping standard
- shopping difficulty
- laundry or cleaning difficulty
- food preparing difficulty
- dirty dishes
- upset by housework
- does not do housework
- complains about housework

PSYCHOMOTOR RETARDATION (PR)

- long pauses in speech
- voice faint
- few or no answers
- talks in brief phrases only
- mute
- speaks slowly
- keeps same posture
- psychomotor retardation
- keeps eyes closed

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

DRUG ABUSE (ND)

Unprescribed psychotropic
- barbiturates
- amphetamines
- tranquilizers
- antidepressants
- other or unspecified
- from time to time
- at least once a week
- at least 3 times weekly
- at least once daily

Narcotics or psychedelics
- heroin
- codeine, demerol, morphine
- cocaine, opium, other
- marijuana
- LSD, mescaline, peyote, etc.
- from time to time
- at least 1 time weekly
- at least 3 times weekly
- at least once daily

DELUSIONS - HALLUCINATIONS (DH)

- somatic delusions
- says body changed or has odor
- people talk about him
- somatic hallucinations
- olfactory hallucinations
- auditory hallucinations
- voices threaten
- voices exalt
- auditory halluc. daily
- visual hallucinations
- convinced of his delusions
- ideas of reference
- claims hallucination real
- acts on hallucination
- acts on delusion
- delusional power or knowledge
- claims conspiracy against him
- claims he is persecuted
- feels controlled
- claims famous identity
- says his mind is read

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

SOCIAL ISOLATION (SI)

- avoids contact with people
- never visits
- inhibited with people
- feels isolated
- likes to be alone
- feels rejected
- feels friendless
- friendless or no contact
- not one good friend
- not two good friends
- no one to tell troubles

DISORIENTATION - MEMORY (DM)

- forgot where born
- forgot year born
- forgot mother's maiden name
- confabulates
- forgot dinner
- doesn't know city
- doesn't know institution
- nature of institution unknown
- doesn't know month
- doesn't know year
- can't recall question

DENIAL OF ILLNESS (DN)

- says problems only physical
- denies he has been sick
- says problems not psychiatric
- absurd reason for troubles
- blames others for his troubles

DENIAL OF ILLNESS (Cont'd)

- says he needs no help
- insists others change
- says he needs only rest, etc.
- effect on others unrecognized
- no need to change attitude

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

STUDENT OR TRAINEE ROLE (SR)

- reduced course load
- misses school
- late papers or exams
- hard concentrating on studies
- hard to start on homework
- cannot retain studies
- 1 or more D or incomplete
- 2 or more D or incomplete
- conflict with teachers
- non academic trouble
- avoids school social life
- little pleasure from school
- hates going to school

PARENT ROLE (PR)

- gives up child care to others
- needs help to manage children
- can't do 1 or more tasks
- can't do numerous tasks
- little attempt to limit child
- uses extreme or cruel measures
- loses control limiting child
- fear of hurting children
- unreasonable restrictions
- morbid fear safety of child
- feels unable to care for child
- frequent conflicts with child

ANXIETY (AN)

- many fears
- fear insanity
- morbid fear of future
- attacks of panic
- fear prevents activity

ANXIETY (Cont'd)

- bothered by anxiety
- continually anxious
- feels restless
- uncomfortable when traveling
- frightened expression

APPENDIX H

Composition of Scales of the Psychiatric Status Schedule

MISCELLANEOUS (MS)

prescribed psychotropic

complete alcohol section

depersonalization

negative toward sex

attempts coitus cannot finish

avoids sex

homosexual desires

shows mood changes

PHOBIA (PH)

phobia

fear prevents activity

APPENDIX I

Psychiatric Status Schedule Standardization Data

The PSS was standardized on a sample of 770 newly admitted psychiatric inpatients of both sexes, ranging in age from 15 to 75. The sample carried a variety of diagnoses including psychotic, neurotic and personality disturbances. A variety of reliability data is provided by the authors (Spitzer et al., 1970). The internal consistency of the four symptom summary scales are high, ranging from 0.80 to 0.89 as determined by the Kuder-Richardson Formula 20. Since the summary role scale is not calculated by summing component scores, the internal consistency of this scale cannot be calculated.

Interjudge reliability coefficients were determined by having raters, paired in various combinations, rate 46 newly admitted inpatients. The intra-class correlation coefficients ranged from 0.90 to 0.98 for the four summary symptom scales and was 0.94 for the summary role scale.

Test-retest reliability coefficients were determined by calculating the correlation of the scale scores for the same subjects evaluated by different interviews at different points in time. The reliability coefficients ranged from a low 0.30 for Speech Disorganization to a high of 0.85 for Depression-Anxiety, with a median value

APPENDIX I

Psychiatric Status Schedule Standardization Data

across all symptom scales of 0.57.

The authors present three kinds of validity information (Spitzer et al., 1970). The first was based on data from population and diagnostic groups that would be expected to differ when measured by the PSS. In one study, the authors contrasted groups of inpatients, outpatients and a community sample. With only minor deviations, and across all 22 scales, the inpatients had the highest mean scores, followed by the outpatients, followed by the community sample with the lowest scores. In a second series of studies various diagnostic groups were contrasted. As expected, the behavioral characteristics associated with the different diagnostic groups were generally reflected in the scale means. For example, the neurosis groups scored highest on Summary Role and Depression-Anxiety, while the schizophrenic groups had higher means scores on the majority of the symptom scales than the neurotics.

Further validation of the PSS was provided by evaluation of its ability to measure change. The authors report two studies conducted with 40 newly admitted psychiatric inpatients who were evaluated upon admission and again four weeks later. In the first study, all but two scales showed the expected improvement, with nine of the scales showing statistically reliable improvement. In the second study,

APPENDIX I

Psychiatric Status Schedule Standardization Data

twelve patients diagnosed as cyclic manic-depressives were independently clinically judged as being in manic, depressed or normal phases. In each case, the PSS showed changes in the scales corresponding to the phase the patients were in. For example, patients in the depressed phase were found to have high scores on Subjective Distress, Depression-Anxiety, Daily Routine-Leisure Time Impairment, Social Isolation and Retardation-Lack of Emotion.

Validity data for the PSS is also provided by its correlations with other measures. In a study by Spitzer, Fleiss, Endicott, and Cohen (1967) correlations between the Mental Status Schedule (MSS) scale scores and various instruments (MMPI, Beck Depression Inventory, Doruell Medical Index, Zung Depression Scale, Katz Adjustment Scales, Brief Psychiatric Rating Scale, Inpatient Multidimensional Psychiatric Rating Scales and the Hamilton Depression Rating Scale) were reported. Since many of the MSS scales are identical to the PSS scales and the correlations of the MSS scales with these instruments were generally substantial, this is taken as strong evidence of the validity of many of the PSS scales. The remaining PSS scales (Daily Routine-Leisure Time Impairment, Antisocial Impulses or Acts, Drug Abuse, Alcohol Abuse, the five specific role scales and the Summary Role Scale) were empirically compared to scales in similar instruments in current use

APPENDIX I

Psychiatric Status Schedule Standardization Data

(Psychiatric Evaluation Form, Current Adjustment Rating Scale). In general the agreement between similar measures was high (Spitzer et al., 1970).

In summary, the developers of the PSS argue that the instrument is excellent for psychotherapy outcome research in that it provides a convenient and flexible interview technique which permits measurement of a wide range of psychopathology, and rates the subject with respect to role functioning and addictive or psychopathic behavior. In addition, the large majority of the items to be judged are brief descriptions of small units of overt behavior that are reported by the subject as having occurred during the previous week or are observed during the interview. That is, unconscious conflicts and motivations are not evaluated. The instrument thus provides multiple behavioral measures, which undoubtedly increase its attractiveness as a psychotherapy outcome measure (Bergin, 1971; Kiesler, 1971). Strupp (1972), after independently reviewing the instrument, adequately summarizes its virtues by recommending the PSS as an excellent outcome measure for psychotherapy research.

APPENDIX J

Goal Attainment Scaling - Follow-Up Guide (Kiresuk & Sherman, 1968)

	Goals			
Outcome Value Goal Weights	Fear of Sex Involvement 5	Dependency on Mother 3	Decision-making 4	Social Functioning 4
Most unfavorable treatment outcome thought likely (-2)	Avoidant No dating No sex	Lives at home Does nothing without mother's approval	No new decision made, still weighing same alternatives (job, vocation)	Institutionalized prison or hospital
Less than expected success with treatment (-1)			Complains of being unable to make up mind	On probation Further arrests
Expected level of treatment success (0)	Dating Petting	Chooses own friends, activities without checking with mother	Makes up mind on vocation, other major items	On probation No further arrests for peeping
More than expected success with treatment (1)	Some satisfactory intercourse	Returns to school		No contact with police, states peeping no longer
Best anticipated treatment success (2)	Regular dating Regular satisfactory intercourse Marriage	Establishes own way of life Chooses when to consult mother		

APPENDIX K

Goal Attainment Scaling Standardization Data

Due to the relatively recent arrival of the GAS technique into the sphere of evaluation, information as to the reliability and validity of the procedure is sparce. Brief mention of studies which have provided information is cited here. Due to the unavailability of the primary sources, details of the studies cannot be presented.

Mauger, Audette, Simonini and Stolberg (1974) have indicated that the GAS procedure has test-retest reliability comparable to the MMPI and other self-report personality tests, the reliability of which are considered adequate. The Mauger et al. (1974) study also indicated that the GAS method possessed face validity. A study by Garwick and Lampman (1972) has verified that the GAS method possesses content validity.

An extensive study which verifies the reliability and validity of the GAS method including concurrent and predictive validity, has been conducted by the originator of the procedure, T. J. Kiresuk and his staff. This data is in preparation, but has not yet been released for publication (Bolin & Kivens, 1975).