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Title of Thesis: INTERACTION BETWEEN TIME AND VERBAL
FLUENCY: A BEHAVIORAL MODEL FOR REDUCING
AGGRESSIVE BEHAVIOR

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ABSTRACT

INTERACTION BETWEEN TIME AND VERBAL *Fluency* FACILITY: A BEHAVIORAL MODEL FOR REDUCING AGGRESSIVE BEHAVIORS

by Leslie C. Brinson

This investigation was undertaken for the purpose of critically evaluating the contributions of two variables, time in therapy and verbal fluency, believed important to counseling outcomes. In addition, the study attempted to test the efficiency with which a behavioral model designed specifically for reducing aggressive behaviors, reduces overt and covert aggression of delinquent boys.

The consideration that directly prompted the development of the investigation was the researcher's observations that few research studies have been organized that systematically and rigorously measure the therapeutic efficacy of counseling techniques and methods with minority groups, particularly young, black delinquents; for no study could be found that related these variables of time and verbal fluency to counseling outcomes with this carefully drawn sample.

The criteria for selecting subjects to be included in the study were that each subject be an adjudicated delinquent and must have committed a crime of a magnitude sufficient to result in being incarcerated for more than ninety days. This period of incarceration must have been in progress during the time counseling was offered. To satisfy this criterion, students from a residential center for young delinquent boys were selected. By treating these subjects it could be assumed that any changes in aggressive behaviors might well have resulted from treatment effects in that the residents were subjected to similar stimuli and were randomly assigned to treatment groups.

The analysis of the data was accomplished through the use of a two-way analysis of variance which was representative of a 2×4 factorial design with the four levels of time forming the vertical dimension and the two levels of client verbal fluency forming the horizontal dimension. The level of significance was set at .05, a level at which all four hypotheses were tested. Since specific questions were raised prior to the initiation of the experiment, the method of paired comparisons was the dictated strategy for analyzing the data statistically. The actual statistical tools used were the t and F tests.

It was observed that the raw data (gain scores derived via subtracting the differences between means of pre and post

testing) were skewed in a form that threatened the power of the design; thus, as a corrective measure, the data were transformed through the use of a square root transgeneration.

It was found that a statistical significant difference existed between clients' mean gain scores for 0 hour of counseling and the average of 3, 6, and 9 hours of counseling. This finding held only when the criterion was the overt aggression which compared the effects of the behavior model to the effects of no counseling at all. A second finding was that a significant linear trend was found across the means of the treatment dimension representing time. Again, this finding held only when the criterion was the overt aggression measure. Statistical analysis of the data fail to support any hypotheses regarding significant effects of interaction and verbal fluency for either the overt or covert measures.

With respect to the variable of time, the paradoxical findings were that subjects counseled via the behavioral model for 3, 6, and 9 hours actually showed increments of aggression on the overt measurement scale when compared to the control group which received no counseling. Further, the findings regarding trends in the data were that there were significant linear trends that characterized the data; however, these trends were in a negative direction which leads to the conclusion that the mean gains of aggression

were larger as clients' time in counseling increased. It is therefore concluded that the behavioral model was an ineffective method of successfully working with the selected sample of young, black delinquents in terms of reducing their manifest aggression. More pointedly, according to the evidence at hand, this model has a deleterious effect on clients in that their aggression increases with the use of it.

The second variable under study, verbal fluency, did not affect clients' outcomes in therapy on either criterion. Accordingly, clients identified as having high verbal fluency make no more gains in therapy than those identified as having low verbal fluency. There were no statistical significant interaction effects.

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Chapter 1

PROBLEM

Purpose of The Study

The purpose of this study is to examine to what extent the contributions of clients' verbal fluency and length of time spent in therapy affect the outcomes of therapy. In addition, the investigation proposes to test the efficiency of a behavioral counseling model in reducing the covert and overt aggression of young delinquent boys.

Need for The Study

During the last two decades counseling psychologists began to casually examine a number of client variables and process variables that were assumed to be related to counseling outcomes. Of all the variables examined, it seems that (1) the amount of time that clients spend in counseling activities and (2) the clients' ability to verbalize were particularly relevant to many counseling endeavors. Despite the importance of these variables, few research studies have been executed that systematically and rigorously expose the contributions that each makes to counseling outcomes. This is especially true in the case of young, black delinquents; no research studies could be found that related the variables of time and verbal fluency to counseling with these special clients.

The issue has not been that counseling practitioners and researchers have completely ignored the importance of these variables, but it is just that the importance that has been placed upon these variables has not been matched by professional efforts to organize scientific research, calculated to glean creditable data about these variables.

In addition to this void, other problems which give rise to the need for investigation are further discussed in this section under the headings of "Time as a Treatment Variable", "Clients' Level of Verbal Fluency as a Treatment Variable", and "Human Aggression and the Problem of Modifying It".

Time as a Treatment Variable

Counseling practitioners, researchers, and theoreticians have embraced the problem of time and its relationship to counseling in a number of varied ways. For example, many exponents of Freudian psychology advocate counseling techniques and methods that require clients to spend an excessive amount of time in therapy before positive changes in clients' behavior can be observed. This variable of time has taken on a unique function for other schools of thought that advocate the use of marathon groups in resolving clients' problems. Their approach is to keep the counseling process going continually for extended periods of time, typically for an uninterrupted week-end, which accelerates the rate of

client growth. Now, if this kind of approach is tenable, then just middle class and affluent clients who can afford the time and money would be the chief recipients of services of those who advocate the utility of Freudian and marathon group psychotherapy approaches.

This state of affairs, seems to contest the integrity of many egalitarian and altruistic counseling psychologists, and causes one to wonder whether or not the time dimension accelerates, inhibits, or has any effect on the outcomes of counseling. Therefore, a study organized to carefully examine this variable is timely and seems to be sorely needed.

Clients' Level of Verbal Fluency as a Treatment Variable

Verbal fluency represents another variable that has obvious import to the counseling process, but little is known about the exact role it plays in therapy for few studies have been organized to examine its influence on counseling gains. There are a number of theoreticians who suggest that there is a high and positive relationship between the client's ability to verbalize and the expectation that he will make gains in therapy. On the other hand, many practitioners have failed to consider the value of the clients' verbal fluency as a factor in counseling. This seems to suggest that it is a variable irrelevant to the counseling process.

Therefore, two questions regarding this seem to be unanswered: (1) How crucial is verbal fluency as a counseling variable? (2) Is there a relationship between clients' levels of verbal fluency and their gains in therapy? This study is needed to provide at least some partial answers to these and other related questions.

Human Aggression and the Problem of Modifying It

An obvious obstacle to understanding and treating aggression is society's inability to agree on when aggressiveness is acceptable or unacceptable. That is, there is no clear dividing line between those forms of aggression which we deplore and those which we admire. For example, the quest for power in our culture has, in its most extreme form, disastrous aspects which we acknowledge but discourage; but the drive to conquer difficulties and to gain mastery of the external world underlies great human achievement and is thus rewarded.

It is this close proximity between acceptable and unacceptable aggressiveness that renders it difficult for one to know exactly how to behave in provocative situations. Also, for the same reason, the behavioral counselor encounters difficulties in deciding which behavior patterns are to be reinforced and which are to be discouraged.

But, despite the fact that aggression is not an easy phenomenon to study, it can hardly be disputed that the inappropriate expression of it often renders the client unproductive because of incarceration, personal injury, or an accumulation of employment barriers like police and prison records. Since negative forms of aggression can be so debilitating, counseling psychologists must continue to strive to become more proficient in devising techniques and methods by which they can enable clients to deal more effectively with it.

The need for research in this area seems even more urgent since there are few studies organized for the express purpose of promoting more effective ways of counseling special clients like parolees and probationers. Moreover, those few studies involving the rehabilitation of aggression prone clients, a majority of them black, show no changes in dependent variables.

Therefore, the germane question: Is counseling a suitable treatment mode for all people, or more specifically, can special clients, mostly black, inner city dwellers, be significantly and positively affected by a given counseling treatment modality? En route to at least a partial answer to this question the researcher will counsel a number of these special clients in an experimental condition using a behavioral counseling model. The purpose then will be to reduce the aggressive behaviors of young delinquents.

In summary, the need for the study is twofold. First, there is a void in the literature relating to the exact contributions that time and verbal fluency contribute to counseling outcomes. Second, it appears that counseling models have historically been appropriate only for middle class clients with general behavioral problems. Thus, this study will augment the research literature by examining the effectiveness of a counseling model in meeting the needs of disadvantaged clients with specific behavioral problems.

Statement of The Problem

The problem is threefold:

1. to determine the degree to which outcomes in counseling can be predicted from the amount of time the client spends in counseling.
2. to examine the contributions that clients' levels of verbal fluency make to outcomes in therapy.
3. to test the efficiency with which a behavioral counseling model can reduce the frequency of specified classes of covert and overt aggressive behaviors.

Limitations of The Study

This study is limited in several ways which differ widely in importance. The first limitation relates to the transferability of behaviors that the clients

acquire in counseling. More specifically, clients' behaviors are expected to be modified in accordance with the contingencies arranged by the behavior manager. But these modified behaviors may or may not be evident outside the safe, laboratory-like counseling environment. Unless the newly acquired ways of behaving are transferred to the realities of the clients' life, enabling him to deal more effectively with his usual environment, the counseling activity would seem to be futile. Therefore, clients' behavior changes will also be measured, subsequent to counseling, by teachers, cottage parents, etc. Thus, this approach seems to provide some measure of the transferability of clients' behaviors even though they are restricted to those that exist within the artificiality of the institutional setting. Still the question as to how the clients will respond to the stimuli in his usual hometown community is left to conjecture for no follow-up provisions were established to estimate behaviors in this environment.

The second major limitation relates to the lack of rigorous safeguards to insure that in fact certain client behaviors are or are not reinforced in accordance with plans specified by the model. However, steps were taken to assess the consistency with which the contingencies were dispensed.

The next limitation refers to problems associated with the capacity of the statistical tools to analyze the data. Stanley (40) points out that parametric statistical tools are

not always usable with data derived from group treatment. This caution is based on the theory that persons in groups both assist and inhibit one another. The outcome is a reduction of variance within the group members' scores. Therefore, the application of a parametric statistic like the analysis of variance, as used in this study, is inappropriate according to Stanley.

This limitation is somewhat overcome by the fact that the groups do not meet for extended periods of time, which should limit constrictions of variances.

The officials of the institution required the researcher to assign all residents of the same building to the same treatment group. This requirement partially violated the principal of randomization because all subjects of the universe (population) did not have an equal and independent opportunity to be assigned to the different treatment groups. However, this violation was not considered severe since (1) the buildings were randomly designated to receive the treatments and (2) officials of the school report a policy of random assignment of students to buildings upon admission to the center.

Another limitation of the study related to the lack of additional information on the reliability of the behavior rating scale. The available technical information, intercorrelations of raters' estimates of the occurrence of

clients' aggressive behaviors, seems inadequate since this kind of information does not tell how consistently the scale can be used over time.

The last limitation refers to inherent problems associated with the use of difference or gain scores such as those used in this investigation. The assumption underlying the use of these scores is that the magnitude of the difference scores corresponds to the existence of the trait in reality. According to Cronbach (8), a reference group would be needed to test this assumption; however, no such reference group was incorporated in this study.

Operational Definitions of Important Terms Used in the Study

1. Verbal Fluency refers to cottage counselors' estimations of the extent to which clients talk when counselors are trying to engage them in counseling or some other kind of discussion activity.
2. Overt Aggression refers to the frequency that counselors observe clients destroying property; provoking fights; getting involved in fights; disobeying authority figures; slamming doors, kicking objects, threatening to kill themselves, using vile words, and breaking general rules of the school.
3. Covert Aggression refers to scores on the Jesness Inventory, a test standardized on adjudicated juvenile delinquents.
4. Varying Lengths of Time in Therapy. This refers to the number of hours that each group spends in the counseling activity.

Theory

Theory Relating to Time as a Counseling Variable

There is a dearth of theory that addresses itself specifically to time as a variable in the counseling process; research in the area has been either inconclusive or peripheral. The gravity of this problem is emphasized by Cartwright (7) who examined the role of time in counseling in much detail and pointed out that little is known about how this variable functions in the counseling process and that: "The relationship between length of therapy and success was complex."

Thus, for the lack of a better theoretical direction for this study, the researcher advances the popular and seemingly common sense assumption that the more time the client spends in counseling, the greater his gains will be.

Theory Relating to Clients' Verbal Ability as a Counseling Variable

The structuralist movement led by Wundt and Titchner toward the end of the 19th century seem to have been the chief exponents of much of the theoretical foundation for modern-day verbal psychotherapy. These men held that the basic method of psychology was introspection, which is an examination of mental contents such as perceptions, feelings, sensations, etc. Thus, according to many verbal psychotherapists, the ability of clients to verbally communicate the

mental contents represents the extent to which individuals are expected to benefit from counseling.

More recently other theoretic approaches have pressed for models that de-emphasize the requirements of client introspection and client-counselor verbal interactions. The leaders in this endeavor are behavior therapists. It is their view that all behaviors are learned or unlearned in accordance with reinforcement contingencies: behaviors followed by positive reinforcement enjoy a higher probability of recurring than those followed by negative reinforcement or by no consequences. Behaviorists view counseling as another learning arena where clients' behavioral repertoires are altered in accordance with behavioral contingencies. Implicit in this view is the idea that clients' verbal fluency or verbal participation is important only when the counselor and client agree that the client's verbal repertoire should be altered. Examples of client problems during verbal participation in counseling are stuttering, poor diction, and a reluctance to talk due to shyness or feelings of inferiority. According to the theory of the behavioral approach, the prerequisites to clients' growth in therapy are as follows: (1) the specific behavioral outcome must be defined, (2) the criterion for success or change must be defined, (3) a decision must be made as to what behaviors will be generated, extinguished, or altered, and (4) a decision must be made as to what the reinforcers will be.

Whitaker and Lieberman (48) have fashioned another approach to counseling psychology which, also unlike the early introspection-type approaches, does not make the client's verbal contribution a prerequisite to his making progress in therapy. They concede, however, that the therapeutic benefits are limited for the consistently non-verbal or silent client. Nonetheless, they go on to say:

"He can experience affect associated with crucial personal conflicts in the group, can observe the consequences of others' yielding maladaptive solutions similar to his own, and can achieve insight through views exposed to relevant group information."

It seems obvious, therefore, that theoreticians hold widely disparate views regarding the role of clients' level of participation in the counseling process. It is hoped that the present study will aid in reducing some of this divergence between the theoretical views regarding the role of the variable of client verbal fluency.

Theory Relating to Aggression: Acquisition and Modification

The model that this study employs to modify aggressive behaviors of young, mostly black, delinquent young men takes its theoretical foundation from (1) social learning theory, (2) analytic group psychotherapy, the type which Parloff (34) calls the integralist, and (3) disclosure theory.

Social learning theory. This study does not purport to argue the advantages or disadvantages of either the expression of or the potential for aggressive behavior in our society. Clearly there are some aggressive behaviors that should be encouraged in that they contribute to the survival or success of the individual. On the other hand, there are aggressive behaviors performed at inappropriate times and directed toward inappropriate targets that result in the client experiencing aversion and restraints such as that embodied in imprisonment. The study does purport to examine the efficacy of certain reinforcement contingencies in reducing clients' inclination toward aggression. If the model is effective in accomplishing this goal, practitioners will still have to make the decision as to whether they wish to have their clients' aggressive behaviors modified or not.

According to social learning theory, aggression, like any other behavior is learned. That is, the frequency with which aggressive behavior is displayed, the specific forms that it takes, the situations in which it is expressed, and the targets that are selected for attack are functions of social experiences. The theory provides substantial evidence that aggression can be effectively unlearned by differentially reinforcing certain client behaviors.

Integralist type analytic group psychotherapy theory.

According to the exponents of this theory, the essential mechanism of change is learning by reality-testing through confrontation. As the client copes with anxiety, he learns that his habitual solutions, which he has heretofore believed necessary for survival, are not required.

In combination with this concept, these two theories will be relied upon to give partial direction to the present study. Thus, those client responses that represent the usual or habitual solutions, which are likely to be aggressive (Lorenz, 30) will be ignored or simply not reinforced. Clients' behaviors will change in appropriate directions according to social learning theory and group analytic psychotherapy theory.

Disclosure theory. The modes of individual survival in culturally, and economically deprived environs, especially in the inner-city, are published widely (Gass, 18). Many of these publications point out that in order to survive in these environs one must learn quickly and well never to disclose the real concerns in his life to a stranger or a person in authority because he (1) takes the risk of having this information used against him at a later time and (2) takes the risk that the listener will come to doubt his emotional or physical strength to endure or solve his own

problems (Vontress, 40). Therefore, with this kind of client, counseling becomes, at best, a conversation where group processes, transference relationships, self-examination, etc., are non-existent and client change is only an illusion.

The treatment model posited by this study purports to overcome the clients' previously learned predisposition not to give of himself (self disclosure) which is a prime prerequisite to growth in counseling. This will be accomplished in two steps. First, the counselor will present relevant experiences via video-tape to a group of subjects who have recently manifested aggressive behaviors and the tapes will consist of a series of vignettes characterizing problem areas of the clients' lives, past and present.

The second step involves the counselor consistently reinforcing those client responses that are non-aggressive and not reinforcing responses that are aggressive. The first step is designed to (1) elicit client behaviors that should be modified and (2) incline the client toward disclosure and the second step is designed to expand the clients' repertoires, i.e., to embed behaviors that suggest that the client has found or has considered alternative ways of handling his aggression.

Research Hypotheses

Previous research findings tend not to agree on the functions of time and verbal fluency in the counseling

process, as discussed in the "Review of the Literature". This review will consistently show results of "no gain" or "no improvement" especially when the subjects are special clients. Accordingly, the literature suggest certain hypotheses which follow.

Smith (39) believes that some special clients (disadvantaged black clients in particular) do not improve in counseling because their experiences are so different from those of the counselor that the clients become uncomfortable and thus immutable. He argues for the kind of structure, direction, and relevancy in counseling that is suggested in the model of the present study. Therefore, the model should effect change in clients' behaviors in specifiable directions and, therefore, the following hypothesis is advanced:

1. The average gains of each of the three treatment groups is greater than that of the control group, no treatment.

Counseling is largely a verbal activity, and the assumption is often made, then, that counseling success is predicated on the clients' verbal abilities. Accordingly, Rogers (37) is adamant in his position that clients' verbal explorations must frequently prevail if the client is to grow as a result of the counseling activity. Hence, the following hypothesis is advanced:

2. The higher the level of client's verbal facility the greater will be his therapeutic gains.

Tyler (45), Woody (54), Cartwright (7), and Vontress (46) and others hold differing points of view as to the kind of accelerating effects, if any, that client time in counseling and level of verbal fluency have on outcomes in counseling. Therefore, the combinations of long term counseling and low verbal ability or short term counseling and high verbal ability may represent particularly efficient ways of effecting change on the dependent variable. Consequently, the following interaction hypotheses are advanced:

3. (a) Subjects whose levels of verbal functioning are comparatively low make greater gains if they spend a relatively long period of time in counseling.
- (b) Subjects whose levels of verbal functioning are comparatively high make greater gains in counseling if they spend a relatively short period of time in counseling.

The fourth hypothesis relates to the affects that time has on counseling outcomes. According to Cartwright (7), it is not true that the more time the client spends in counseling the greater the gains, but rather there is a point at which the linear trend diminishes. The fourth hypothesis is therefore proposed:

4. There is a non-linear trend over the levels of time in counseling.

Overview

The inclusive plan of this study is as follows: a review of the literature will be presented next which is Chapter II; the experimental design of the study will be presented and explained in Chapter III, along with a description of the sample, statements about the measuring instruments, and an explanation of the means of analyzing the data; an analysis of the data will be reported in Chapter IV.

CHAPTER II

REVIEW OF THE LITERATURE

This section will be comprised of summarizations and critiques of a wide variety of research articles and professional opinions pertaining to the focus of this manuscript. Research from the following areas will be presented: length of client time in counseling; client verbal fluency in counseling; and human aggression and the problem of modifying it.

Length of Client Time in Counseling

Tyler (45) suggests that the length of time that the client spends in therapy can be markedly reduced or controlled by bringing about small but necessary behavioral changes that will have a major impact on his life. She feels that these major events can be introduced during the initial counseling sessions, and, if acceptable to the client, the counselor can work toward bringing an end to counseling as soon as a "clear direction is established." (45, p. 479) The approach to accomplish this objective that Tyler describes is "minimum change therapy." She says that this approach makes it possible for the counselor to see how in principle therapeutic counseling could be shortened considerably

without making it any less effective. Tyler's position seems to be reasonable and logical but it lacks empirical validation; therefore, it is of limited usefulness.

Cartwright (7) organized a study to examine clients' success in counseling as a function of certain actuarial variables. This study was done as an extension and validation of some aspects of a similar study conducted by Seeman in 1954. Both studies are closely related to the present investigation, and accordingly, are of particular interest. Seventy-eight clients were involved in Cartwright's study. All subjects were seen by client-centered therapists at the University of Chicago Counseling Center during the period 1949 to 1954. According to his findings, there is a significant tendency for male clients to take longer in therapy than females. Further, the study showed that clients who remain in counseling on a long term basis encounter a point where no additional gains are made, i.e., a "failure zone" which occurs between the 13th and 21st interview. It was concluded therefore that a nonlinear relation exists between time in counseling and success. This finding is in perfect harmony with the findings of Seeman (38), and moreover, is in accord with one of the basic premises of the present study. It should be pointed out that the Seeman study is more questionable than that of Cartwright in that the former allowed the counselors to singly and subjectively

decide whether or not clients improve while the latter's measures were more objective and empirically based. For example, Seeman's dependent variable consisted of counselors' feelings toward clients while Cartwright used observable client behavior.

Winder and Hersko (51) designed a study to determine the relationship between clients' social class and length of time spent in psychotherapy. One hundred patients were chosen at random from a population of 1250 veterans who had received or were receiving psychotherapy at a veterans administration mental hygiene out-patient clinic. The authors' data supported the hypothesis that middle class patients receive significantly more analytically oriented psychotherapy and stay in treatment for longer periods than their lower class counterparts. Further, they were able to infer from trends in the data that lower class clients could be successfully treated psychotherapeutically.

Stieper and Wiener (41) became interested in the problem of interminableness in outpatient psychotherapy and organized a study that would reveal some explicit information about the problem. The researcher divided patients into two long-term and short-term groups matched with respect to education, intelligence, or diagnosis. They found no correlation between length of time in therapy and the extent of patients' improvement. Moreover, they observed ". . . the majority of

"long-term patients were being seen by a minority of therapists. A likely reason for this appears to be failure on the part of long-term therapists to adequately formulate therapy goals, and to impersonalize the therapeutic relationship." (p. 42) The implication is that therapy could be shortened if goals were more adequately formulated and if the relationships between therapists and clients were less personal. These conditions are closely related to the variables that are under investigation in the present study, i.e., time and verbal fluency.

Wiener (19) further examined the problem on duration of counseling. The opportunity for this examination materialized when two psychiatrists resigned from the clinic where the researcher was employed. Accordingly, he was able to estimate the effects that early termination of long-term therapy has on clients. In effect he was comparing abbreviated counseling with long-term counseling. The clients were notified that the psychiatrists would discontinue their services and that the therapy sessions would be terminated ahead of schedule. The assessment, although crude and open to the possibility of much error via researcher subjectivity, showed that those clients who were terminated early improved comparably to those whose counseling was not abbreviated.

Auld and Myers (1) were concerned with devising methods that would predict the length of time that clients would

spend in psychotherapy. The equation for prediction was comprised of past clients' measured social position by Hollingshead's Index of social position. The authors proceeded to determine the relationship between these indices of social position and the number of hours that the clients remained in psychotherapy. The biserial r between class (the dichotomized variable) and number of interviews is $+.403$ which is significant at the $.01$ level; this tends to support the idea that duration of counseling is predictable from client's social class. Further analysis of the data shows, as have numerous other studies, that psychotherapy is a more efficient mode of therapy for middle class patients than for lower class. The researchers suggested that therapists should consider changes in their technique to meet the needs of lower class patients. Sigmund Freud (17) made the same suggestion years ago.

Nachmann (33) suggests that determinants of lengths of time that clients will require in therapy are functions of the extent of mental pathology that the client brings to the therapy session. The three categories of mental pathology mentioned were impulse control, impulse expression, and impulse recognition. Generally, impulse control problems required the most time in therapy while impulse recognition required the least therapy time, according to the researcher's estimation. However, he presented no organized research to corroborate his position.

Like Auld and Myers; Gibby, Stotsky, Miller and Hiler (19) were interested in the problem of counseling duration; they attempted to predict the length of time that clients would remain in counseling. They selected patients from a veterans administration mental hygiene clinic who had been given Rorschachs. They later correlated certain scoring categories of the clients' Rorschach responses to length of time that the clients stayed in therapy. The findings were that patients earning scores of R, A%, H, and F+% are generally more motivated for counseling and thus remain in the activity for a relatively short period of time.

Taylor (12) indirectly questioned the results of Cartwright's study regarding the relationship of success and length of time in psychotherapy. Consequently, he undertook a rigorous investigation to cross validate the research findings of his colleague. The study involved counseling 309 clients of a veterans hospital for an extended period. The findings of this research corroborated those of Cartwright's, i.e., the existence of a "failure zone" between the 13th and 21st interview. It should be pointed out that Cartwright's counseling mode was considered to be client-centered type while that of Taylor's was a psychoanalytical type. It could be argued that Taylor's study is not a cross validation of Cartwright's since the Cartwright study was not duplicated, i.e., the same treatment modalities were not used

in both studies. One possible generalization is that mode of counseling does not appreciably alter the point at which additional counseling fails to improve the client.

Kirk and Headley (28) undertook a study to determine some of the factors related to discontinuance of counselors with clients during counseling. The research, involving a review of 2,357 case histories, commenced in 1947 at the University of California Counseling Center at Berkeley. The reasons for discontinuance, or reduction in length of counseling, were those stated by past counselors in case reports. The reason most frequently given for clients' opting to abbreviate their counseling was that of counselee's unwillingness or inability to face self-evaluation or assume responsibility for taking steps towards a solution (fear of test results, facing personal or emotional problems, unrealistic regarding objectives).

Client Verbal Fluency in Counseling

The practice of studying large rather than small units of behavior has apparently been the accepted practice of behavioral scientists. This orientation is reflected in this section of the literature review by the scarcity of studies directly illuminating the small unit of behavior under consideration, client verbal fluency in counseling.

Howard (23) organized a study to investigate whether preferred verbal terms identified by subjects affect the

probability of responses by subjects more than neutral reinforcers. Eighty-five subjects who reliably rated 20 reinforcing terms on 12 Semantic Differential Scales were divided into four experimental groups and one control group. The subjects were then conditioned using the Taffel Card technique and three most preferred reinforcing terms previously selected by each person. Her most relevant findings were: (1) only subjects reinforced with strong positive reinforcers demonstrated verbal behavior that differed from the behavior of control group subjects, and (2) only words with reliably strong positive ratings on the Semantic Differential Scale significantly increased the probability of critical responses under the Taffel Card condition technique. Thus, the null hypothesis of no difference in effects of subjectively defined reinforcers on verbal behavior was not supported. The findings of the investigation suggests that counseling psychologists' failure to achieve desired results in counseling and psychotherapy may be due to use of verbal stimuli which are not reinforcing. Even more importantly, the data suggest that the failures may be based on the client's inability to verbalize his concerns. Howard addressed herself to the latter point only cursorily in that it was not the focus of her concern.

Williamson (50) discusses in detail two modes of communication in counseling. The first one relates to the

habitual and natural manner that counselor and client communicate to each other. In this necessarily unstructured way, the client risks the counselor making inaccurate interpretations about what he is communicating. The second and most frequently used mode of communicating involves, the rational use rhetoric, grammar, and the logic of the spoken language through which the counselee conveys alternative considerations to his maladies. He asserts "through the conversational use of language the client learns to interpret complex facts and situations about himself."

(50, p. 241) This strongly implies that the client is able to benefit in counseling proportionately to his fluency with the language. Relative to Williamson's contentions, Robinson (1949) stresses that import lies in what the client says, i.e., the coherence of his typical discussions rather than how he communicates his concerns to the counselor.

Carnes and Robinson (6) addressed themselves specifically to one of the underlying premises of the present investigation. They claim ". . . Extensive counselee talk is considered by many to be an important attribute of effective counseling . . . that a client's willingness to talk is usually symptomatic of a good working relationship between client and counselor." (6, p. 402) Further, they say that free counselee verbalization tends to reveal material at a conscious level, and until this happens, there can be little growth in terms of insight.

To put some of these assumptions to test, the authors organized a study involving analysis of 78 typescript interviews. The authors were concerned specifically with determining the relationship between amount of client talk and the following variables; topic, counselor technique, growth in counselor insight, working relationship, and counselor and counselee responsibility for progress. The findings showed that amount of client talk yielded a low positive correlation with growth to client insight and with working relationship between client and counselor. However, a marked correlation was found between client talk and with responsibility for the progress of the interview. This last finding is of limited significance in that a counselor seems compelled to rate a talkative client as one who takes responsibility for progress in the interview. Obviously, this results in spuriously high correlations.

In recent years a number of behavioral counseling models have been posited which tend to negate the need for client verbal participation in the counseling process, Wolpe (53), Woody (55), and Krumboltz (29). Unfortunately there is no hard research that examines the variable of client verbal facility in relation to these models.

Gordon (20) noted the verbal behavior of disadvantaged clients he counseled. He refers to their "weakness in the utilization of abstract symbols and complex language forms

in interpret and communicate. . . (and) weakness in the utilization of abstract cognitive processes." (20 p. 302) Along the same lines, Riessman observed that deprived children do not verbalize well in response to words alone, i.e., in conversation or question-response interchange. But, he reports, their verbal performance improves markedly following discussion periods of role playing sessions when they discuss and action they have just witnessed. This observation closely accords with the author's rationale, theory and practice on which the use of video taped vignettes in the present study is based, i.e., to keep subjects verbally engaged in specific discussions.

Pasamanick and Knobloch (35) were perplexed by the comparatively low scores of black children in the language area of psychometric tests. They hypothesized that scores were caused by the examinees' awareness of the difference in skin color of the examiner. This hypothesis was tested somewhat crudely by dividing the language behavior items on the Gessel Developmental Examination into three spheres; reported language behavior, comprehension of language, and verbal responsiveness. This was done to compare verbal responsive behavior, which might be impaired, with reported and comprehensive behavior. Their findings revealed that verbal and comprehension behavior spheres were significantly different. Reported behavior however was not significantly

different from the other two. Verbal responsiveness varied more (S.D. 17.7) than did comprehension or reported behavior. The authors attributed this variation to examinees' awareness of racial differences. This makes tenable their formerly advanced hypothesis. They concluded that these lowered language scores were apparently due to lack of verbal responsiveness rather than poor comprehension of language. The implication of this conclusion is that clients' level of verbal responsiveness and their levels of comprehending language operate at differing levels. However, the present study is concerned only remotely with language comprehension, but is concerned directly with verbal responsiveness.

Bernstein (3) asserts in a paper delivered to the British Association for the Advancement of Science that psychotherapeutic relationships in the form of verbal communication is less available to members of the lower working class, not by virtue of innate deficiencies in intelligence, but because of a culturally induced speech system whose dimensions of relevance and significance do not properly orient the lower working-class patient in the therapy relationship. The number of people in this class represent about 30 per cent of the population according to Bernstein. Later in her lecture she suggests that this limitation of communication does not make therapy completely

useless for these clients in that the sensitive, creative therapist can obtain positive results if he is willing to adapt his techniques to the needs of the clients. On the other hand, Rogers (37) is not as hopeful as Berstein about the utility of verbal psychotherapy for lower class clients. His claim is that Verbalization is "feedback" and this feedback must prevail in counseling if the activity is to have a positive effect upon the client.

Truax and Wargo (44) indirectly addressed themselves to the possible relationship between verbal fluency and counseling. These authors are particularly noted for their efforts in demonstrating theoretically and empirically the "sine-qua-non" of non-possessive warmth, genuine positive regard, and accurate empathy in a counseling relationship. The implication of their general research in the area is that positive changes occur in counseling to the extent that these ingredients or facilitating conditions are communicated verbally or nonverbally between client and counselor. The present study purports to further examine the import of one crucial aspect of Truax and Wargo's studies, verbal communication.

Human Aggression and the Problem of Modifying It

The whole of man's aggression has been extensively studied by behavioral scientists for as far back in time as the literature itself goes. However, it was at the turn of the 20th

century that behavioral scientists turned their attention from previous metaphysical concerns of aggression, i.e., origin, development, etc., to more substantial aspects such as specifying techniques and methods appropriate to modifying or rechanneling man's aggression. The most frequently studied mode of altering man's aggressiveness has been that mode which falls under the general rubric of learning or conditioning therapies.

Accordingly, Walters, Marshall, and Shooter (47) surmised from an array of empirical research studies, as well as that of their own, that the effectiveness of social influence procedures in changing behaviors are greater if the observers or recipients of these social reinforcers are emotionally aroused. They hypothesized that this arousal results in a restriction of attention to salient environmental events which are necessary contingencies to behavioral changes. Notwithstanding, these researchers recognize that too much arousal can inhibit or disrupt the learning process rather than enhance it. The use of emotional arousal as a precondition to therapeutic innovation is in concert with this writer's behavioral model which was fashioned to reduce aggressive behaviors of young delinquent boys.

Zigler, Hodgden, and Stevenson (57) conducted a study to change the unacceptable behaviors of lower and middle class socioeconomic retarded children via dispensing verbal

reinforcers in the form of "praise." They found that these reinforcers improved the behaviors of lower socioeconomic retarded children but did not appreciably effect the performance of children from the middle class socioeconomic strata. Contrarily, Zigler and Kanzer (58) found that "praise" (good, fine, etc.) reinforcers were more effective with lower than with middle class children. Zigler and de Labry (56) pointed out that "intangible" reinforcers were less effective with lower than with middle class children on discrimination learning concept switching tasks.

Lovaas (31) purposed a study to determine the effects of reinforcing childrens' verbally aggressive behaviors. A bar pressing apparatus representing a doll striking another doll when activated by S's was the dependent variable. Nineteen children with ages ranging from 3 to 5 were randomly selected from a Navy institute nursery school. A pre-experimental or operant level of aggression (striking dolls) was established for each subject. Each S was taught how to use the striking doll apparatus and was subsequently observed playing with the equipment for three minutes to make certain that the effects of the independent variable would not be confounded within S's inability to manipulate the dependent variable. The children were reinforced until a high level of aggressively verbal responses were noted. Following this, they were invited to play with the apparatus containing the

striking dolls. The researcher found a significantly higher proportion of aggressive play behaviors following the periods where S's verbally aggressive behaviors were reinforced. It was concluded that if aggression could be learned by reinforcing verbally aggressive behaviors, then it logically follows that aggression can be unlearned by reversal of the same process, i.e., reinforcing nonaggressive behaviors.

Feshbach (15) committed himself to testing the hypothesis that fantasy will reduce the strength of a motive by means of symbolic satisfaction. He used two different groups in the study. One was given the opportunity to engage in the expression of hostile fantasy while the second group was controlled to the point that S's were permitted to engage in only nonfantasy activities. The change in the dependent variable was the difference between the amount of aggression that the two groups expressed subsequent to engaging in either fantasy or nonfantasy activities. In accordance with the researcher's prediction, the fantasy group exhibited less aggressive behaviors than the control or nonfantasy group.

A study that lends itself directly to the use of reinforcement contingencies for controlling clients' aggressive responses was carried out by Patterson and Anderson (16). Their data showed that there was positive relationship between the contingencies and subsequent frequencies of

behaviors. Further, these contingencies were of the aggressive behaviors.

Brown and Elliott (4) concluded from reviewing the literature that much of the theorizing and experimentation on the inhibition of aggression have focused largely on the influence of anxiety or guilt, on the assumption that response inhibition is necessarily a consequence of pairing responses with some form of aversive stimulation. Similarly, Bandura and Walters (2) noted that researchers have consistently shown that aggression can be controlled by the experimenter not reinforcing aggressive behaviors. Further they noted that controlling aggression or inhibiting aggressive behaviors via strengthening of incompatible positive responses, on the other hand, has been entirely ignored, despite the fact that social control of aggression is probably achieved to a greater extent on this basis than by means of aversive stimulation. In order to test the assumptions of Bandura and Walters as well as their own, Brown and Elliott set out to control the aggressive behavior of all boys in a nursery school class by using as techniques the removal of positive reinforcement (attention) for aggressive acts, while giving attention to cooperative acts. The teachers were the actual dispensers of the reinforcement.

The subjects were the 27 males in the younger (3-to-4-year-old) of the two groups at the nursery school. The

dependent variable was a compilation of aggressive responses observed by trained, adult raters using a standardized rating scale. Simple analysis of variance was the major statistical tool used. Significant results favoring the treatment effects were found at the .01 alpha level, i.e., results like this have a probability expectation of occurrence 1 out of 100 or less.

Kaufmann and Feshbach (26) organized a study to see whether or not displaced aggression could be modified by exposing clients to intense antiaggressive communications. Their assumption was that one would expect that if a subject is made aware of nonaggressive alternatives which are socially valued responses to provocation, then a higher probability of nonaggressive behavior with a related decrease in aggression responses should result under conditions of subsequent instigation. Fifty-five college subjects were assembled in groups of three to discuss by notes which stressed rational, constructive approaches to instigatory situations. One half of the group was subsequently insulted by the experimenter. Using the Mann-Whitney test significant results were found, i.e., subjects exposed to neutral communications were significantly more punitive toward the delinquent, following insults, while those receiving the nonaggressive communications did not show this displacement effect and were less negative toward the experimenter than the neutral subjects.

Epstein (13) recognized the existence of an increasing body of correlational evidence that point to the role of imitation of ingroup attitudes as a determinant of prejudicial attitudes (Epstein and Komorita, 14); (Mosher and Scodel, 32); however, he could find few experimental studies of imitatively derived hostility towards outgroups. He purposed to fill this void in research literature and to test some pertinent hypotheses regarding the extent to which aggression could be induced through the influence of models with varying socioeconomic, racial and personality (authoritarian) characteristics.

Authoritarianism was measured by the 30 item F scale which was group administered to 144 white, male, undergraduate students enrolled in introductory psychology courses at Wayne State University. One-third of the highest and one-third of the lowest scores were randomly assigned to eight experimental conditions ($n = 3$ per cell) with the remaining 32 subjects assigned to the control group in which subjects were not exposed to an aggressive model.

In terms of findings, an analysis of variance based on the scores indicated that, whereas the effect of the models' differential social status upon imitative aggression was not significant, the subjects' authoritarianism and the models' ethnic characteristics were important determinants of imitative aggression. Thus, the main effects for

authoritarianism ($F = 16.72$, $df = 1/64$), and race ($F = 10.05$, $df = 1/64$), were both significant at the .01 level. This indicates that high authoritarian subjects were more aggressive than lows and the Negro models elicited greater aggression than the white models.

The implications of the previous study for the present study is that the vignettes characterizing aggressive behavior of black males may increase aggression (via imitative experiences) which is the converse of what the researcher actually purports to accomplish.

Hartmann (21) organized a study to test the effectiveness of a catharsis hypothesis model and an efficacious means of reducing aggressive behavior. The advocates of this hypothesis claim "...exposure to aggressive models reduces hostile impulses and consequently decreases the likelihood of future aggression..." (21, p. 280)

The study was experimental in nature. Its sample consisted of seventy-two male adolescents who were under court commitment to the California Youth Authority. They ranged in age from 13 to 16 years, with a median age of 15½ years. Twenty-two of the subjects were institutionalized for highly aggressive offenses. The primary dependent variables used in the investigation were the intensity and duration of shocks (aggression) administered by subjects following exposure to the independent variable, films requiring catharsis.

An analysis of variance was performed on the data. The findings were that aggression was increased as a function of exposure to aggressive models. The conclusions are that the findings cast considerable doubt on the validity of a catharsis hypothesis either as proposed by Dollard, et al (12) or the more recent revision by Buss (5) and Feshbach (16). Hartmann's study and his findings are noteworthy, not only for the relevance to the investigation at hand, but more importantly, it is the only study that could be found that involved adjudicated juvenile delinquents as subjects in a study purporting to control aggression. Nonetheless, the selection of different subjects seems to lead to the same findings. A case in point is a rigorous, carefully controlled study organized by Kenny (27) who involved 30 first grade children, 14 girls and 16 boys in two conditions of catharsis, experimental and controlled. The results were that the net shifts between the experimental and control group showed that the control group decreased significantly in total aggression; direct and intense aggression; and verbal aggression. The conclusions clearly point to evidence which impugns hypotheses that a catharsis-type treatment modality is a useful means of reducing aggression, a conclusion which corroborates similar studies in this area.

Summary

The review of pertinent literature contained articles and opinions in three areas: lengths of client time and counseling; client verbal fluency and counseling; and human aggression and the problems of modifying it.

There are trends in the literature which suggest that therapy time can usually be shortened without risking a decrement in therapeutic gains. Further, there is some evidence which indicates an approach that leads to abbreviated counseling, free of untoward side effects. A number of experiments have been carried out using a number of methods and techniques in an effort to find the most facile and effective way of reducing time of counseling. Relative to client verbal fluency in counseling, no study could be found that scientifically and directly examined this variable. Many professional opinions are that clients with low verbal fluency do not do well in traditional verbal psychotherapy and that efforts should be continued to find innovative models which are effective with these clients. For human aggression and the modification of it, the literature does not agree on any crime or aggression causation system. There is, nonetheless, much evidence to support one kind of conceptual counseling model for modifying aggression. That is, researchers have consistently received positive results via behavioral therapy and have, with equal consistency, received negative results with models that draw upon theory relating to the utility of catharsis in counseling.

CHAPTER III

DESIGN OF THE STUDY

Sample

The client group consisted of forty black males all of whom resided at Cedar Knoll, a treatment center for juvenile delinquents. This branch of the Center is located 20 miles north of Washington, D. C., on approximately 1000 acres of land near Laurel, Maryland. By legal statutes, it is a security institution designed to house and provide programs for older delinquents who represent the most difficult group to plan for in an institutional setting (11). Generally, each resident has been involved in many serious and repeated law violations ranging from felonies to misdemeanors.

Cedar Knoll was selected for this study for a number of reasons. First, the residents seemed to be mentally and physically able to engage in and profit from therapy and/or counseling. The second reason was that they had demonstrated some act of aggression or crime of such a magnitude to have been incarcerated. The use of these subjects who had recently demonstrated aggression was necessary since the study proposes to present new and effective counseling techniques for reducing unwanted aggressive behaviors. Many possible contaminating variables were controlled because

the subjects shared a common environment, viz. the institution.

The age range of subjects was from 13-20 years. Twenty-one subjects were committed for reasons of their having committed at least a misdemeanor, while 19 were committed for having committed a felony. Table 3.1 presents the age, classification of the crime and the length of counseling treatment given each of the forty individuals.

Table 3.1 Age, Classification of Crime Committed, and Number of Counseling Hours for Constituents of the Sample

Client Number	Age	Classification of Crime Committed	Number of Counseling Hours
1	18	Misdemeanor	0
2	16	Felony	0
3	19	Misdemeanor	0
4	15	Felony	0
5	14	Felony	0
6	13	Misdemeanor	0
7	15	Misdemeanor	0
8	16	Felony	0
9	14	Misdemeanor	0
10	13	Misdemeanor	0
11	19	Misdemeanor	3
12	19	Misdemeanor	3
13	15	Felony	3
14	16	Misdemeanor	3
15	17	Felony	3

Table 3.1 (continued)

Client Number	Age	Classification of Crime Committed	Number of Counseling Hours
16	15	Felony	3
17	16	Misdemeanor	3
18	18	Felony	3
19	14	Misdemeanor	3
20	15	Felony	3
21	18	Misdemeanor	6
22	15	Felony	6
23	14	Misdemeanor	6
24	16	Felony	6
25	15	Felony	6
26	14	Misdemeanor	6
27	13	Felony	6
28	15	Felony	6
29	18	Misdemeanor	6
30	19	Misdemeanor	6
31	14	Felony	9
32	15	Misdemeanor	9
33	16	Felony	9
34	18	Misdemeanor	9
35	17	Misdemeanor	9
36	16	Misdemeanor	9
37	14	Felony	9
38	15	Felony	9
39	20	Misdemeanor	9
40	18	Felony	9

Methods, Procedures, and Description of The Behavioral Counseling Model

Selection of subjects. The institution's records were reviewed to determine the subjects who met the criteria to be included in the study, i.e., a recent history of having committed a crime and of having lived more than one-half of their life in an inter-city environ. All of the subjects residing at the center were eligible for inclusion in the study. To facilitate planning and execution of the treatment, each experimental group was comprised of members from the same building. All students are always assigned to all buildings on a random basis according to administrator's reports.

The next step was to assign subjects to treatment groups of time and verbal fluency, a quasi-blocking dimension.

The reality of the research situation required that residents selected for a given treatment reside in the same building. The institutional administrators made this agreement to avoid what was considered a logistical problem of contacting each of the several living units when treatments (counseling sessions) were scheduled. According to these officials, all residents are assigned to buildings on a random basis when admitted to the center.

Essentially, then, the assignment of subjects to treatment groups involved two processes which are as follows:

1. The researcher selected four slips of paper containing the names of the buildings which represented the four different treatment groups. The order in which the names of the buildings were selected determined which building would be used for a given treatment. For example, building A was drawn first and building B was selected next, therefore, building A was the control group and building B was the 3-hour group, etc.
2. The second process was that of assigning clients to the verbal fluency dimension. This was accomplished by drawing the names of clients from a container who were rated on the verbal fluency scale prior to the beginning of the experiment. For each building or group, names of residents were drawn randomly until each cell had been filled with five subjects.

Treatment process. Each treatment session met once a week and lasted for one and one-half hours. The plan called for the treatment process to be constant over all groups but allowing time to be a variant.

The counselor, black and male, was nearing completion of a Ph.D. with specialities in counseling psychology and statistics, measurement, and research designing. He had spent more than five years actively administering counseling and psychotherapy services to a wide spectrum of clients in numerous settings, private and public. His theoretical counseling orientation is eclectic with a heavy leaning toward behavioral or systems counseling.

The Behavioral Model

This model was designed for the purpose of effectively counseling aggression prone delinquents to respond to

aggressive stimuli in ways other than by aggression. Put more simply, the model was to facilitate "teaching" aggressively prone delinquents alternative ways of handling their aggression. The basic components of this model are (1) video-taped vignettes and (2) reinforcement contingencies, carefully arranged by the therapist.

Video-taped vignettes. These tapes were comprised of several "critical behavioral incidents" some of which were produced by Norman Kagan and his associates who initially made the films to further research on the Interpersonal Process Model (Kagan, 25). Most of the vignettes, however, were made by thespians of the University of Maryland's Department of Fine Arts and other student volunteers.

The characters in the vignettes conveyed two distinct kinds of behavioral modes. The first was that portrayed by young, black actors reacting aggressively to an array of traditional provocations such as policemen, insensitive teachers, restrictive parents, etc. An example of a behavioral mode in this area is a scene in an inner city school where a teenage black boy is obviously embarrassed by the teacher's repeated insistence that he move from the back of the room to the front. The student sternly reacted in these words: "I'm not going to move over as long as you keep messing with me, and if you keep messing with me I'll slap the hell out of you." The second kind of behavioral

role is that characterized by the traditional problem "provocateurs" who assume roles that threaten, anger, and/or frustrate people. One such vignette is a white policeman swinging his black jack saying, "Boy, I don't believe you no matter what you say. I am going to hit you in the head with this stick and take your ass to jail."

It was the function of the video-taped vignettes to (1) accelerate group members' level of activity and (2) elicit behaviors relevant to the dependent variable.

Operation of the Counseling or Reinforcement Process

This counseling process involved the counselor's dispensing, or arranging certain reinforcement contingencies classified as those representing rewards and those representing no rewards. According to prior plans, the reinforcements were generally in the form of counselor approval of client reactions to vignettes, reactions suggesting that the client considered or would consider responding to the proactive stimuli in a non-aggressive way. Other forms of reinforcement arranged or dispensed by the counselor are as follows:

1. counselor smiles for client's desired behavior
2. attempts to get group support for a client's desirable reaction or position taken
3. slowly nodding of head as client talks about alternatives to direct aggression
4. counselor expressing agreement with client on issues suggesting that the client changed or would change his view about persons who advocate or represent direct aggression as a mode of solving human problems

A partial list of words or phrases that the counselor was expected to reinforce (depending upon the context) are as follows:

"I'd talk to him first."

"There are a lot of ways of dealing with whitey."

"Avoid getting busted, I would -----"

"I'd run if I had to."

"May be"

"Sometimes I think I could be wrong about some policemen."

"Just be smarter than the son of -----"

"Happy"

"Love"

Words or phrases that did not approximate the general meaning of those above would get the "no reward" contingency. That is, the counselor would not respond to those behaviors that were considered incorrect, inappropriate, or otherwise irrelevant; essentially the client would be ignored.

The counselor showed the vignettes one at a time. After each vignette, the video-tape was shut off and group members were asked questions. For example: "What would you do if you were faced with this situation?" or "What did you think about that scene?" After each client made his input (reaction) he was reinforced or ignored, and if the issue or stimuli was still viable; other group members were encouraged to continue to react to it. Generally, one or two vignettes kept the group engaged for the entire session. New vignettes were introduced when the new stimuli seemed to be the only force

that would return the group members' attention to the specific task of searching for alternatives to aggression.

In this model, the role of counselor was that of a contingency manager. It was his function to control the consequences of certain behaviors, that is, to see to it that appropriate reinforcers were dispensed when the appropriate behaviors occurred (Daley, 9).

Consistency of Reinforcement

As a check on the consistency in which reinforcers were dispensed, the researcher invited five graduate students in the Counseling and Personnel Services Department at the University of Maryland to rate the counselor's attempts to reinforce clients during a counseling session. This session was organized to establish measures of consistency and involved twelve students at the residential center in which the study was later completed. The session was thirty minutes in length and was video-taped for the purpose of making the activity available to raters for observations.

The actual task of the raters required that they complete the form as per the instructions of the Rating Scale (see Appendix A). The five raters reviewed the tape as a group, but their responses were made without consultation with other group members.

The response measures representing the consistency of the raters with one another are represented below.

Questions (See Appendix A)

Raters

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>
1	4	4	5	2	4
2	5	4	4	1	5
3	2	4	5	4	4
4	2	2	1	3	1
5	5	4	5	5	5

As illustrated above, questions 1, 3, and 5 seem to have elicited the greatest amount of rater consistency, that is; regarding questions 1 and 3, three of the five raters checked the fourth value of the questions, while four out of five raters agreed on the same observation (5) of question 5.

According to Krumholts (29) four questions must be answered before the use of a reinforcement treatment model can be expected to bring about positive changes in clients' behaviors. The questions are as follows:

1. What are the verbal statements that should be positively reinforced?
2. How can these best be elicited from group members?
3. What will be the reinforcement contingencies?
4. Have ways and means been provided to observe the clients' behavior on a "before and after treatment" basis?

These aforementioned questions guided the researcher in the development of his model, and he believes that these questions have been answered fully and explicitly.

Operational Procedures and Preparation for the Study

Administrative contract. Prior to any contacts with subjects, the researcher attempted to obtain a written agreement from the chief administrator of the institution in which the study was conducted and it pointed out that the administrator understood the nature of the research to be done and also endorsed the methodology set forth in the proposal. Since a written agreement could not be obtained, a verbal commitment was accepted.

Measuring Instruments

The study made use of three measuring techniques: (1) an instrument to assess changes in clients' covert aggression, The Jesness Inventory; (2) an instrument to assess changes in clients' manifest or overt aggression; and (3) an instrument to assess clients' levels of verbal fluency. The first of these instruments was a standardized personality-type measuring device. The other two were designed specifically and exclusively for the purposes of this investigation, all three of which will be discussed in this section.

The Technique for Assessing Clients' Covert Aggression

The Jesness Inventory. This test was developed as a part of a five-year research program on delinquency (Jesness, 24). Since one of the major tasks of the research project was to evaluate the effects of a treatment program for disturbed

children, a search for adequate measuring devices was inaugurated early in the study. The development of the Jesness Inventory came as a consequence of the apparent lack of an available structured test which was sensitive to change, yet stable enough to provide a reliable measure of personality types. The minimum requirements established for a useful test were as follows:

1. The test should be sensitive to behavioral changes so that it could be used to assess changes over a relatively short time.
2. The items must be understandable to a person as young as eight years of age.
3. The measure must be broad enough to measure varying types of personalities.
4. It should provide predictive information about clients' social and personality problems.

Concerning technical qualifications of the test, the manual reports reliability coefficients and information on its sensitivity to clients' faking attempts. Odd-even reliability coefficients for the total test range from .45 to .88 while test-retest reliability coefficients ranged from .35-.79. The data on the "fake-ability" of the test demonstrated that the test was difficult to fake, i.e., test takers scores were about the same even when they were asked to demonstrate deceptive responses on the test.

The instrument provided scores for eleven categories of behaviors of personality characteristics. The two that were most relevant to the dependent variable were Social Maladjustment

(SM)-53 items, and Manifest Aggression (MA)-31 items.

Essentially, the research for the present study required the combining of these two closely related indices of aggression in order to derive a measure of covert aggression. Descriptions of the content, operational definitions, and validation data are presented in the paragraphs that follow.

Social Maladjustment. This concept refers to a set of attitudes associated with inadequate or disturbed socialization, determined by the extent to which the individual shares the attitudes of persons who demonstrate an inability to meet environmental demands in socially approved ways. The collection of the content material for this subscale was guided by the theory that the delinquent distrusts authority and blames others for his problems; but yet maintains what is probably an unrealistic, distorted evaluation of his own parents.

According to Jesness, on cross-validation, most of the items in the SM scale differentiated between delinquents and non-delinquents at each age level from eight to eighteen at a better than chance occurrence.

Manifest Aggression. This scale reflects an awareness of unpleasant feelings; especially of anger and frustration, a tendency to react readily with emotion, and perceived discomfort concerning the presence and control of these feelings. It consists primarily of emotionally toned items suggesting the presence of anger and hostility.

This subtest correlates relatively high with other subtests within the total test (.58-.66) and with subtests of other related tests, i.e., California Personality Inventory.

Instrument to Assess Changes in Clients' Manifest Aggression

Behavior Rating Scale. This scale was developed out of a need to measure specific, and relevant dimensions of the dependent variable, i.e., those behaviors that were observable, measurable and significant (see Appendix B). No other scale, previously standardized, could be found that met the above criteria.

The scale was comprised of eight questions which required the raters (persons with knowledge about each client's behavior such as counselors, teachers, etc.) to estimate the frequency in which they observed certain overt behaviors on a pre-post study basis. The maximum frequency was set at fifteen by the researcher. The behavioral areas embodied by this behavioral rating scale was as follows:

1. frequency that client destroys things
2. frequency that he provokes fights
3. frequency in which he gets involved into fights
4. frequency in which he disobeys authority figures
5. frequency in which he slams doors, kicks objects, etc.
6. frequency of self destruction behaviors
7. frequency of use of words that may prepare one for destruction of others and/or self.

- C. frequency in which he breaks rules at the institution.

The selection of the general content of the scale was dictated by the objectives of the study. However, the specific content, in the final form, was provided via informal feedback from professionals in the field of correction and delinquency as well as lay and professional workers at the institution where the investigation was performed.

Many revisions were required before the scale was accepted. One major revision was that the questions were changed from a Likert-type format to one that permitted raters to estimate frequencies of behaviors on a scale from 0-15. The change was necessitated by the fact that the Likert-type format failed to reveal variances between and within a pilot sample of raters assigned to the task of rating the overt aggression of delinquent youngsters.

Coefficients of Reliability

The reliability coefficients for the behavioral rating scale were based upon intercorrelations of raters' estimations of the frequencies of which behaviors specified in the scale occur.

Four cottage counselors from each building (each building contained a different treatment group) were asked to participate in this aspect of the study which had a twofold objective of

obtaining (1) pre-test data and (2) reliability coefficients. The raters for the control group were not available to contribute to this part of the study.

One meeting was held separately with each of the three groups of raters for the purpose of clarifying issues and answering questions. Just prior to the initiation of the experiment, another short meeting was held with all raters in order to resolve issues and problems that may have arisen subsequent to individual group meetings. No questions, issues, or general concerns were raised in any session which may have suggested that a rater failed to understand the technical aspects of his role and function.

The values used in the intercorrelations are based upon the total frequencies of each rater, that is, the total frequencies of each of the eight questions in the scale. The output of the correlations for this scale are presented in Table 3.2, while Table 3.3 presents the means and standard deviations for each distribution of raters' responses. For the first group, the correlations range from .25 to .69, the second group range from .02 to .77 and the last group's correlations range from .10 to .61.

Table 3.2 Sets of Inter Correlation Matrices Showing Inter Correlation Reliability Coefficients Involving Raters From Three Different Resident Cottages

Cottage #1				
	1	2	3	4
1	-	.468	.253	.379
2	-	-	.507	.698
3	-	-	-	.561
4	-	-	-	-
Cottage #2				
	1	2	3	4
1	-	.773	.027	.145
2	-	-	.314	.185
3	-	-	-	.333
4	-	-	-	-
Cottage #3				
	1	2	3	4
1	-	.486	.229	.560
2	-	-	.385	.610
3	-	-	-	.101
4	-	-	-	-

Table 3.3 Means and Standard Deviations of Each Rater's Distribution of Estimates of the Occurrence of Residents' Aggressive Behaviors

<u>Cottage #1</u>				
Raters	I	II	III	IV
Mean	23.6	50.9	55.3	59.9
SD	9.5	7.7	8.5	6.7
<u>Cottage #2</u>				
Raters	I	II	III	IV
Mean	17.9	14.9	33.6	15.2
SD	19.5	11.9	18.6	13.0
<u>Cottage #3</u>				
Raters	I	II	III	IV
Mean	26.9	12.7	18.5	15.2
SD	19.8	5.7	9.9	12.8

Instrument to Assess Clients' Level of Verbal Fluency

Verbal Fluency Scale

Like the behavioral rating scale, this one was developed to measure the extent to which clients are inclined to talk when they are being engaged in counseling or some other kind of discussion activity. The ultimate purpose of this scale, however, was to separate experimental subjects into a verbal fluency dichotomy of "high" and "low". There was no measuring

instrument that purported to approximate the measurement of this kind of behavior; consequently, the researcher was compelled to develop an instrument fashioned to meet his specific and unique objectives.

This scale (see Appendix C) was comprised of one question which was "How much does the resident whom you are rating talk when you are trying to engage him in counseling or some other kind of discussion activity?" The instructions required that each answer be given by checking one of the five categories ranging from an indication that the client hardly ever talks to an indication that he talks much more than average.

Residents were assigned categories of "high" or "low" based on the average values checked by the raters who came from several occupations at the center: teaching, administration, counseling, recreation, and maintenance.

In case the situation arose that all raters agreed that a client's verbal fluency was at level #3, a position that is neither high or low, the contingency plan called for that client to be discarded and thus rendered ineligible to participate in the experiment.

Reliability of the Scale

Reliability was established by correlating the verbal fluency ratings of two groups, cottage counselors and teachers. The correlations are comprised of the total sums of ratings of verbal fluency given each resident by each of the two groups. Correlations ranged from .60 to .66 as presented in Appendix D, which also describes distributions of ratings, means and standard deviations.

Strategy for Analysis of the Data

A paired comparison methodology was the basis strategy used in the data analysis since specific hypotheses were raised prior to the time the data were collected. The entirety of the data follows a configuration of a typical 2×4 factorial design and all effects are considered fixed. Therefore, analysis of variance were the statistical tools used to analyze the data. The basic assumptions underlying the use of these tools were assumed met since each of the comparison groups were comprised of an equal number of subjects (Dayton, 10).

It was observed that the distribution of the criteria scores were skewed in a way that would critically reduce the power of the design. As a corrective measure, a square root transformation was performed on gain scores within each cell of the factorial design. This kind of transformation was selected as per the instructions of Winer (52).

Statistical Hypotheses

Null Hypothesis I.

In terms of clients' overt and covert aggression scores, there is no difference between the mean gains of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling via the behavioral counseling model.

Alternative Hypothesis IA. In terms of clients' overt and covert aggression scores, there is a difference between the mean gains of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling via behavioral counseling model.

Null Hypothesis II.

There is no difference between the mean gain of high and low verbal fluency clients.

Alternative Hypothesis IIA. There is a difference between the mean gain of high and low verbal fluency clients.

Null Hypothesis III.

There are no interaction effects between amount of time that clients spent in counseling and levels of verbal fluency.

Alternative Hypothesis IIIA. There are interaction effects between amount of time spent in counseling and levels of verbal fluency.

Null Hypothesis IV.

There are no linear, quadratic, and cubic relationships between outcomes in counseling and amount of client time in counseling.

Alternative Hypothesis IVA. There are linear, quadratic, and cubic relationships between outcomes in counseling and amount of client time in counseling.

The following functions, interactions, and mean comparisons were obtained:

1. Comparison of the mean gains of the control group with that of the average mean gains of the three experimental groups when:
 - (a) Subjects' aggressive behavior gains were assessed by the behavior rating scale, the overt measure.
 - (b) Subjects' aggressive behavior gains were assessed by the personality test, the covert measure.
2. The comparison of the mean gains between high and low verbal fluency clients when:
 - (a) Subjects' aggressive behavior gains were assessed by the behavior rating scale, the overt measure.
 - (b) Subjects' aggressive behavior gains were assessed by the personality test, the covert measure.
3. The interaction effects between time and verbal fluency when:
 - (a) Subjects' aggressive behavior gains were assessed by the behavior rating scale, the overt measure.
 - (b) Subjects' aggressive behavior gains were assessed by the personality test, the covert measure.
4. The linear, quadratic, and cubic functions that describe the outcomes from counseling due to time when:
 - (a) Subjects' aggressive behavior gains were assessed by the behavior rating scale, the overt measure.
 - (b) Subjects' aggressive behavior gains were assessed by the personality test, the covert measure.

Summary

In this chapter the design of the study was presented. The sample consisted of forty young, black delinquent boys who committed crimes that resulted in their being incarcerated in a residential center for young delinquent adults. Three measuring instruments were used: The Jesness Inventory; a behavioral rating scale; and a verbal fluency scale. The study was experimental in nature and; therefore, an experimental design 2×4 factorial involving analysis of variance was used to analyze the data. Four statistical hypothesis were posited.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter reports the findings of this study which examined the effects of the variables of time in counseling and verbal fluency on the outcomes of behavioral psychotherapy. Also reported are the findings regarding the efficiency of the behavioral model fashioned specifically to reduce the aggressive behaviors of young delinquents.

All relevant null and alternate hypotheses are presented herein. The confidence level for accepting or rejecting each null hypothesis was set at .05. Null and alternate hypotheses are subdivided into two categories to embrace the behaviors under study, overt aggression and covert aggression. The hypotheses relating to scores derived from criterion measures of overt aggression will be identified by I-O, II-O, III-O, and IV-O, while hypotheses relating to scores derived from criterion measures of covert aggression will be identified by I-C, II-C, III-C and IV-C.

The primary statistical tools used to analyze the data were (1) the F test, derived from the two-way analysis of variance factorial design, and (2) the t test; both of which will compare differences between means. The method of

planned comparisons (Hays, 22) was used to analyze the data, since specific hypothesis were raised prior to the execution of the study. All assumptions underlying the use of the statistical tools were met.

The data were transformed by way of a square root transgeneration. This particular transformation was used because the variances tended to be functions of the cell means; the larger the means the larger the variances (Winer, 52). Tables 4.1, 4.2, 4.3, and 4.4 point out the ostensible relationship between the size of the cell means and the size of the variances.

Null Hypothesis I-0

There is no difference between the mean gain on the overt aggression criterion of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling.

Alternative Hypothesis IA-0. There is a difference between the mean gain on the overt aggression criterion of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling.

Findings. The null hypothesis was rejected at the .05 level of confidence since the computed value of the t test, $t = 1.835/.50 = 3.67$, was exceeded by the table value of 1.68 with 40 degrees of freedom. A graph of means supporting

this statistically significant finding is illustrated in table 4.1. Therefore, the alternative hypothesis is accepted, i.e., there is a difference between the mean gain of subjects counseled via the behavioral model and those receiving no counseling at all. An inspection of the means shows that the gains are larger for those who received counseling than for those who received no counseling. Thus, the findings are that subjects counseled via the behavioral model acquired (rather than unlearned) more aggression than did the control group, the no counseling sample.

This finding was computed by comparing the mean gains of the 0 hour group with the average mean gains of the 3, 6, and 9 hour groups.

Null Hypothesis I-C

There is no difference between the mean gain on the covert aggression criterion of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling.

Alternative Hypothesis IA-C. There is a difference between the mean gain on the covert aggression criterion of subjects who receive no counseling and the average mean gain of those who receive 3, 6, and 9 hours of counseling.

Findings. The null hypothesis was accepted at the .05 level of confidence since the computed value of the t test,

$t = .92/.88 = 1.04$, was not exceeded by the table value of 1.68 with 40 degrees of freedom. Thus there were no significant changes of mean gains on the covert aggression criterion of subjects counseled via the behavioral counseling model and subjects who received no counseling. Table 4.3 further illustrates this finding.

TABLE 4.1
OBSERVED MEANS OF SCORES OBTAINED FROM
THE MEASURE OF OVERT AGGRESSION
PRIOR TO THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION				Means across verbal fluency dimension
	0 hr	3 hrs	6 hrs	9 hrs	
Low	4.2	10.0	9.0	26.8	12.5
High	21.2	29.4	6.8	31.0	22.1
Means across time treatment dimension	12.7	19.7	7.9	28.9	Xt = 17.3

TABLE 4.2
OBSERVED VARIANCES OF SCORES OBTAINED FROM
THE MEASURE OF OVERT AGGRESSION
PRIOR TO THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION			
	0 hr	3 hrs	6 hrs	9 hrs
Low	75.6	384.4	256.4	529.3
High	184.9	280.9	225.3	1089.2

TABLE 4.3
OBSERVED MEANS OF SCORES OBTAINED FROM
THE MEASURE OF COVERT AGGRESSION
PRIOR TO THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION				Means across verbal fluency dimension
	0 hr	3 hrs	6 hrs	9 hrs	
Low	1.0	5.2	2.6	2.4	2.8
High	15.6	5.2	3.4	2.8	6.7
Means across time treatment dimension	8.3	5.2	3.0	2.7	4.7

TABLE 4.4
OBSERVED VARIANCES OF SCORES OBTAINED FROM
THE MEASURE OF COVERT AGGRESSION
PRIOR TO THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION			
	0 hr	3 hrs	6 hrs	9 hrs
Low	161.2	166.4	78.6	5.7
High	1764.0	64.6	75.6	7.8

Null Hypothesis II-0

There is no difference between the mean gains of high and low verbal fluency clients when the criterion measure is overt aggression.

Alternative Hypothesis IIA-0. There is a difference between the mean gain of high and low verbal fluency clients when the criterion measure is overt aggression.

Findings. The null hypothesis was accepted at the .05 level since the computed value of F , $F = 3.74/1.89 = 1.97$, did not exceed the table value of 4.15 with 1 and 32 degrees of freedom. Thus, subjects' levels of verbal fluency did not significantly influence the effects of counseling in terms of the overt measure. The means in table 4.1 illustrate this finding.

Null Hypothesis III-C

There is no significant difference between the mean gains of high and low fluency clients when the criterion measure is covert aggression.

Alternative Hypothesis IIIA-C. There is a significant difference between the mean gain of high and low verbal fluency clients when the criterion measure is covert aggression.

Findings. The null hypothesis was accepted at the .05 level since the value of F did not approach unity, i.e., $F = .190/5.85 = .032$. Thus, subjects' level of verbal fluency did not significantly effect changes in their covert aggression as illustrated in table 4.3.

Null Hypothesis III-O

There are no significant interaction effects between amount of time that clients spent in counseling and their levels of verbal fluency when the aggressive behavior gains are assessed by the behavior rating scale, the overt measure.

Alternative Hypothesis IIIA-O. There are significant interaction effects between amount of time that clients spent in counseling and their levels of verbal fluency when aggressive behaviors are assessed by the behavioral rating scale, the overt measure.

Findings. The null hypothesis was accepted because the computed value of t, $t = .71/.43 = 1/65$ did not exceed the

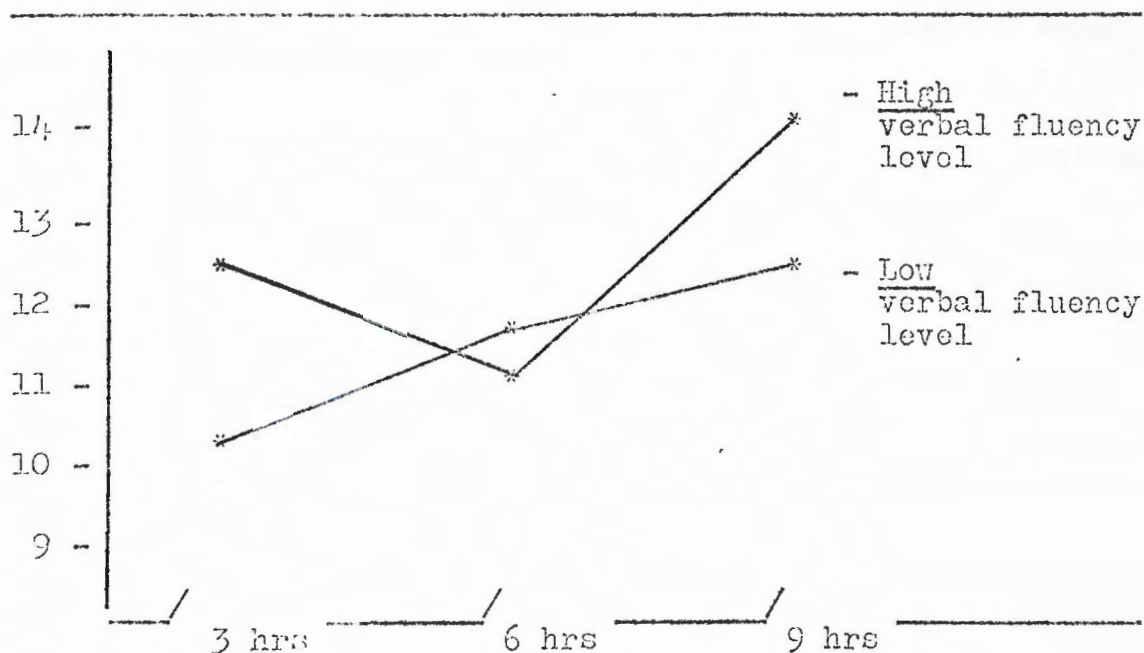
table value of 1.72 with 20 degrees of freedom. Therefore, the interaction between time and verbal fluency was found negligible.

The relevant cell means involved in this finding were H1, H3, L1 and L3. The asterisks in the cells of table 4.5 denote the cells used in this finding of non-interaction. There was a tendency, although non-significant, for some interaction to occur at the second level of the time treatment dimension as shown in figure I.

TABLE 4.5
OBSERVED MEANS OF SCORES OBTAINED FROM
THE MEASURE OF OVERT AGGRESSION
AFTER THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION				Means across verbal fluency dimension
	0 hr	3 hrs	6 hrs	9 hrs	
Low	9.67	*9.54	10.41	*11.22	10.21
High	9.97	*11.64	10.31	*11.37	10.82
Means across time treatment dimension	9.82	10.59	10.35	11.30	10.51

FIGURE I
 INTERACTION OF TIME AND VERBAL FLUENCY
 WHEN THE CRITERION MEASURE IS OVERT AGGRESSION



Null Hypothesis III-C

There are no significant interaction effects between amount of time that clients spend in counseling and their levels of verbal fluency when the criterion measure is covert aggression.

Alternative Hypothesis IIIA-C. There is a significant interaction effect between amount of time that clients spend in counseling and their levels of verbal fluency when the criterion measure is covert aggression.

Findings. The null hypothesis was accepted because the computed value of t , $t = .15/.76 = .19$, did not exceed the

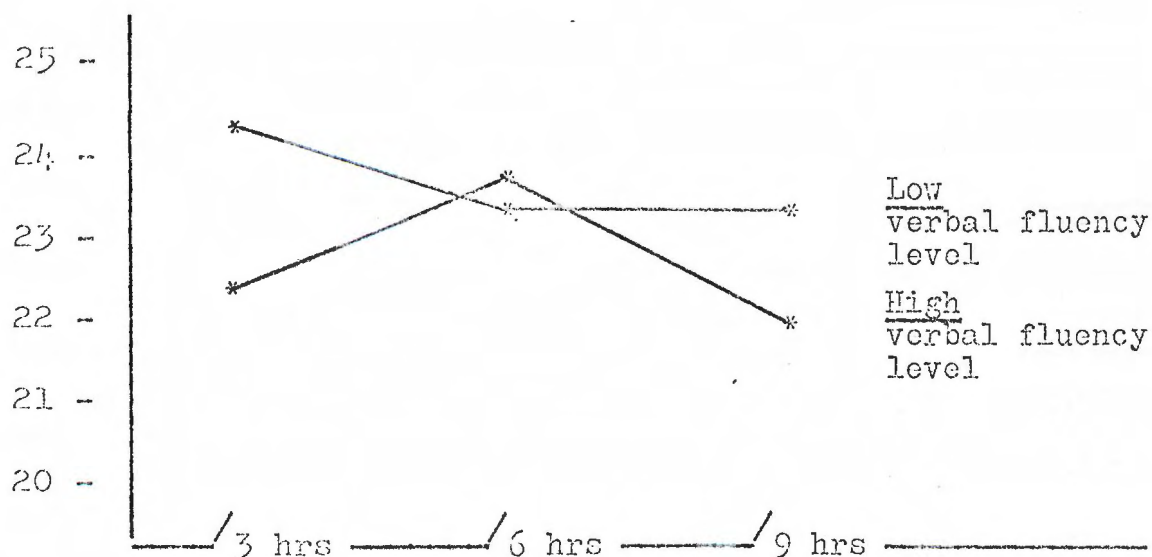
table value of 1.72 with 20 degrees of freedom. Therefore, the interaction between time and verbal fluency is negligible.

The relevant cell means involved in this finding were H1, H3, L1, and L3. The asterisks in the cells of table 4.6 denote the cells used in this finding of non-interaction. There was a tendency, although non-significant, for some interaction to occur at the second level of the time treatment dimension as shown in figure II.

TABLE 4.6
OBSERVED MEANS OF SCORES OBTAINED FROM
THE MEASURE OF COVERT AGGRESSION
AFTER THE SQUARE ROOT TRANSFORMATION

Levels of verbal fluency	TIME IN COUNSELING DIMENSION				Means across verbal fluency dimension
	0 hr	3 hrs	6 hrs	9 hrs	
Low	22.45	*23.37	22.87	*21.78	20.11
High	21.92	*23.45	23.07	*21.52	22.49
Means across time treatment dimension	22.18	23.41	22.97	21.65	

FIGURE II
 INTERACTION OF TIME AND VERBAL FLUENCY
 WHEN THE CRITERION MEASURE IS OVERT AGGRESSION



Null Hypothesis IV-0

There is no linear relationship between outcomes in counseling and amount of client time spent in counseling when the criterion measure is overt aggression.

Alternative Hypothesis IVA-0. There is a linear relationship between outcomes in counseling and amount of client time spent in counseling when the criterion measure is overt aggression.

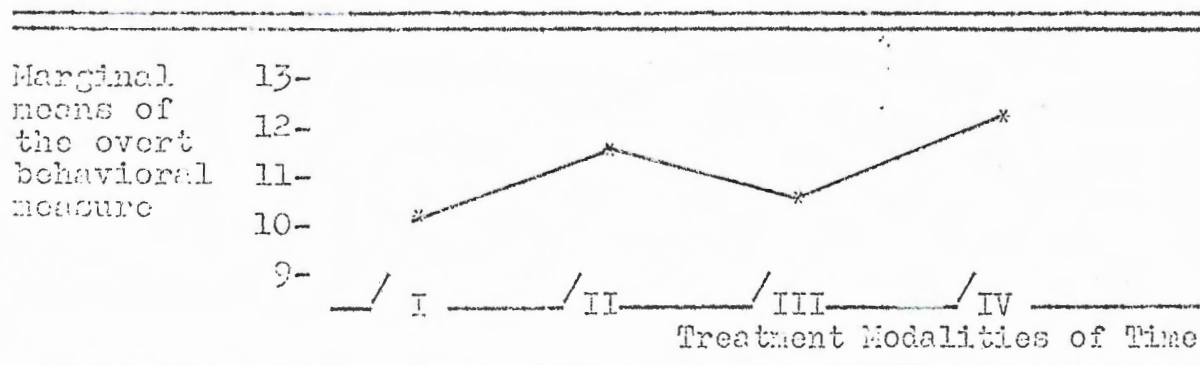
Findings. The null hypothesis was found untenable at the .05 level of confidence as shown in table 4.7. Consequently, the alternative hypothesis was accepted, i.e., a

linear function was identified that characterized trends in the data beyond a chance level. This function is graphically illustrated in figure III.

TABLE 4.7
ORTHOGONAL POLYNOMIAL CONTRASTS
OBTAINED FROM THE OVERT BEHAVIORAL MEASURE

Sources of variation	Sum of squares	df	Mean squares	F
(1) Linear equation	8.81	1	8.81	4.65
(2) Quadratic equation	.06	1	.06	.03
(3) Cubic equation	2.32	1	2.32	1.22
Within cell-error	60.65	32	1.89	
Total	71.84	35	-	-

FIGURE III
ORTHOGONAL POLYNOMIAL FUNCTION
CHARACTERIZING COUNSELING OUTCOMES
BASED UPON THE OVERT BEHAVIORAL MEASURE



Null Hypothesis IV-C

There is no linear relationship between outcomes in counseling and amount of client time spent in counseling when the criterion measure is covert aggression.

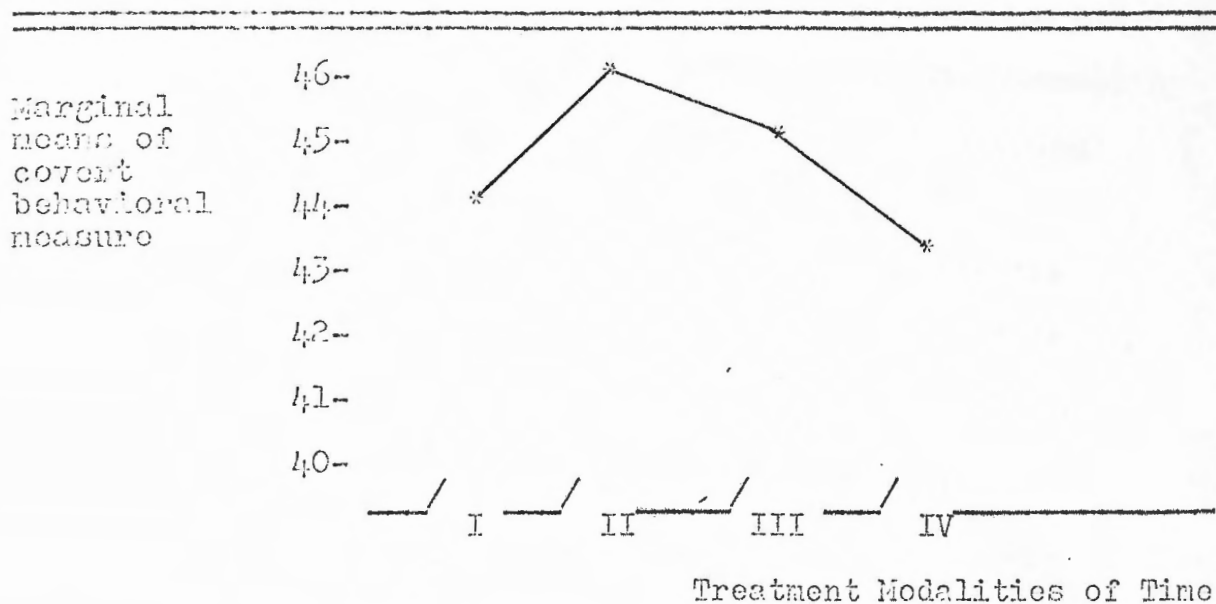
Alternative Hypothesis IVA-C. There is a linear relationship between outcomes in counseling and amount of client time spent in counseling when the criterion measure is overt aggression.

Findings. The null hypothesis was found tenable at the .05 level of confidence as shown in table 4.8. Thus, no function could be identified that characterized a linear trend in the data, which is graphically illustrated in figure IV.

TABLE 4.8
ORTHOGONAL POLYNOMIAL CONTRASTS
OBTAINED FROM THE JESSNESS INVENTORY,
THE COVERT BEHAVIORAL MEASURE

Sources of variation	Sum of squares	df	Mean squares	F
(1) Linear equation	2.10	1	2.10	.36
(2) Quadratic equation	16.03	1	16.03	2.74
(3) Cubic equation	.33	1	.33	.05
Within cell-error	187.22	32	5.85	
Total	205.68	35		

FIGURE IV
 ORTHOGONAL POLYNOMIAL FUNCTION
 CHARACTERIZING COUNSELING OUTCOMES
 BASED UPON THE COVERT BEHAVIORAL MEASURE



Additional Findings.

The remaining two orthogonal polynomial functions, quadratic and cubic, were also examined as per tables 4.7 and 4.8. Neither of these functions characterized a significant relationship between outcomes in counseling and amount of client time spent in counseling for either of the criterion measures, overt and covert aggression.

SUMMARY

Eight null hypotheses were tested and explained in this chapter. They were derived from three broad hypotheses involving two variables and a model for reducing aggressive behaviors of young delinquent boys. The two variables were time in counseling and client verbal fluency. The counseling model included behavioral techniques and methods growing from experimental and applied psychology.

Two of the null hypotheses were rejected while the remaining six were accepted at the .05 level of confidence. The accepted alternatives to the two rejected hypotheses were:

- (1) There is a difference between the mean gain on the overt aggression criterion of subjects who receive no counseling and the mean gain of those who receive 3, 6, and 9 hours of counseling.
- (2) There is a linear relationship between outcomes in counseling and amount of client time spent in counseling when the criterion measure is overt aggression.

Essentially, these two statistically significant findings show, although paradoxically, that subjects acquire more aggression with the use of the behavioral model than when no counseling at all is given.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS, DISCUSSION

Summary

The purpose of this study is to critically evaluate the contributions of two variables believed important to counseling outcomes. These two variables were time in therapy and verbal fluency. In addition, the study attempted to test the efficiency with which a behavioral model, designed specifically for reducing aggressive behaviors, reduces covert and overt aggression of delinquent boys.

The development of this study was prompted by several needs. First, most of the literature in counseling psychology contains wide hypotheses which do not generally yield information specific enough to be useful by practitioners. Thus, there exists a need for specific hypotheses that, when tested, yield definite information that better enables counseling psychologists to effect behavioral changes in desired and predictable directions. Secondly, much of the research in counseling has been concerned with variables that are both peripheral and vague. Hence, the need existed for a more empirical data related to clearly defined variables, crucial to counseling processes and outcomes.

The next consideration that directly prompted the development of the investigation was the researcher's observations that few research studies have been organized that

systematically and rigorously measure the therapeutic efficacy of counseling techniques and methods with minority groups, particularly young black delinquents, for no study could be found that related these variables of time and verbal fluency to counseling outcomes with this carefully drawn sample.

In order to test the relevant hypotheses, several instruments were used to quantify the treatment effects and to measure their concomitant outcomes. Subtests from the Jesness Inventory were selected as measures of clients' covert aggression status before and subsequent to counseling experiences. A behavioral rating scale was standardized by the researcher for the exclusive purpose of assessing clients' overt aggression status before and after counseling. Inter and intra-rater reliabilities were computed and were found to be relatively high, i.e., 64-86. A questionnaire-type scale was developed to quantify and measure varying levels of clients' verbal fluency, a variable used for both blocking and treatment purposes.

The criteria for selecting subjects to be included in the study were that each subject be an adjudicated delinquent and must have committed a crime of a magnitude sufficient to result in being incarcerated for more than ninety days. This period of incarceration must have been in progress during the time counseling was offered. To satisfy this criteria students from a residential center for young delinquent boys

were selected. By treating these subjects it could be assumed that any changes in aggressive behaviors might well have resulted from treatment effects in that the residents are all subjected to similar stimuli and were randomly assigned to treatment groups.

The analysis of the data was accomplished through the use of a two-way analysis of variance which was representative of a 2×4 factorial design with the four levels of time forming the vertical dimension and the two levels of client verbal fluency forming the horizontal dimension. The level of significance was set at .05, at level at which all hypotheses were tested. Since specific questions were raised prior to the initiation of the experiment, the method of paired comparisons was the dictated strategy for analyzing the data statistically. The actual statistical tools used were the t and F tests.

It was observed that the raw data (gain scores derived via assessing the differences between means of pre and post testing) were skewed in a form that threatened the power of the design; thus, as a corrective measure, the data were transformed through the use of a square root transformation.

It was found that a statistical significant difference existed between clients' mean gain scores for 0 hour of counseling and the average of 3, 6, and 9 hours of counseling. This finding held only when the criterion was the overt

aggression which compared the effects of the behavioral model to the effects of no counseling at all. A second finding was that a significant linear trend was found across the means of the treatment dimension representing time. Again, this finding held only when the criterion was the overt aggression measure. Statistical analysis of the data fails to support any hypotheses regarding significant effects of interaction and verbal fluency for either the overt or covert measures.

Conclusions .

With respect to the variable of time, the paradoxical findings were that subjects counseled via the behavioral model for 3, 6, and 9 hours actually showed increments of aggression on the overt measurement scale when compared to the control group which received no counseling. Further, the findings regarding trends in the data were that there were significant linear trends that characterized the data; however, these trends were in a negative direction which leads to the conclusion that the mean gains of aggression were larger as clients' time in counseling increased. Similarly, it is therefore concluded that the behavioral model was an ineffective model of successfully working with the selected sample of young black delinquents in terms of reducing their manifest aggression. More pointedly, according

to the evidence at hand, this model has a deleterious effect on clients in that their aggression increases with the use of it. These conclusions are only valid for the overt aggression criterion which is the behavioral rating scale constructed exclusively for this study.

The second variable under study, verbal fluency, did not effect clients' outcomes in therapy on either criterion. Accordingly, clients identified as having high verbal fluency make no more gains in therapy than those identified as having low verbal fluency.

With respect to the consideration of interactions, there was no evidence to support any conclusion suggesting that these two factors interact in a manner that would prevent one from making predictions about outcomes from therapy even when the gains made, based on both factors, are unknown. Essentially, over-all estimates of differences due to either factor (or dimension) is a usable predictor of average differences of over-all levels of the other factor.

In summary, the general conclusions are that counseling psychologists desiring to work with young black delinquents must continue to examine models that have promise of success, for the present one, designed specifically for this task, falls short of the expressed objective of reducing the aggression of these clients. It is further concluded that time in therapy can have a deleterious effect on clients and

that the levels of the clients' verbal fluency are unrelated to their growth from therapy.

Implications for Future Research

This study has certain shortcomings in the general areas of sampling, assumptions, delivery systems, and control of the experiment which should be considered by those contemplating similar research in the future.

The sample was large enough to satisfy statistical requirements of the relative power of the design, but was not large enough to provide the kind of practical significance needed for broad generalizations. Hence, future research on this topic should be with larger numbers of clients which would provide the basis needed for meaningful generalizations.

In many ways this study may have been premature in that some assumptions were made without the support of "hard" empirical evidence. One of the overriding assumptions made was that man's behaviors are largely functions of events of his environment and thus changes in these behaviors are affected by changed in environmental events impinging upon him. Simply, it was assumed that by ordering certain environmental influences (reinforcers) in appropriate ways, facilitated by verbal communication, it would result in predictable changes in behaviors. Surely, the ordering of reinforcers did not affect behavioral changes to any significant degrees in this study. The other alternative to effecting

changes, via the reinforcement paradigm, is to go beyond the counseling dyad and arrange contingencies at closely spaced periods in the client's daily life. Maybe it is this kind of approach, which seems to exceed the traditional modes of counseling and psychotherapy, that is effective in bringing about behavioral changes in predictable directions. In short, the assumptions regarding the efficacy of "contingency management" in counseling should be examined further on the influence of the variables involved in this study before additional research proceeds.

Other improvements could have been made by the researcher exercising more controls over the modes of the treatment delivery system. A pilot study should have been done in order to determine which of the vignettes had the potentials to significantly change behaviors, and in this way only those that correlated with positive outcomes would have remained a part of the treatment system; this would have made the actual effects of the variables more lucid. As it now stands, information regarding the treatment effects are confounded within the lack of information about the correlation, if any, that exists between each of the individual vignettes and the outcomes of therapy.

The next researcher considering replicating or extending the present study should carefully review the extent to which

he can control the total experimental situation, i.e., make certain that no other treatments are offered at the institution that are not accounted for in his research design. It is believed that the present study was adversely affected by the fact that some treatment groups were differentially treated by virtue of the residential center's own therapeutic programs for selected students. This problem could be eliminated in the future be the investigator studying the entire environment of the population being investigated.

Discussion

Some of the conclusions of this study are in accordance with the findings of previous research and others are at variance with them. Cartwright (7) found that time is a definite correlate with the positive outcomes of counseling which the present study does not corroborate. More specifically, the findings of the present study are the antithesis of Cartwright's in that increased time in counseling seems to have resulted in negative (rather than positive) outcomes in counseling. Additional findings of Cartwright which accorded with those of the present researcher were that both were able to identify linear trends between varying amounts of time in therapy and counseling outcomes. However, the necessarily crucial difference was that

Cartwright's trends were in a positive direction while the researcher's findings were in a negative direction.

This study tends to refute the thesis of Tyler (45) regarding the utility of "minimum change psychotherapy" in that no hasty, temporary, loosely formed solutions to client problems of aggression seem warranted. Caution is taken, however, in comparing the findings of these two studies because the methodology of the treatment modalities differed widely in that Tyler's methods were in concert with client-centered psychotherapy theory while the methods of the present study are in concert with behavioral psychotherapy principles.

The findings of this study seem to accord with those findings of Truax and Carkhuff (43) whose extensive review of the literature clearly showed that some counseling may be destructive, rather than constructive, in helping clients resolve their maladies.

The present study encourages the efforts of Auld and Myers (1) in devising more exacting equations to predict outcomes in counseling since no interaction of the treatment dimensions were observed. Further, the present findings seem to be bent towards agreeing with Auld and Myers' secondary findings that limited aspects of outcomes may be predictable with some special clients knowing their verbal fluency level. They assumed that verbal fluency levels and socio-economic

strata bear a relationship that is not inflated by a partial correlation with one or several other variables.

The implications of the findings concerning the variable, client verbal fluency, seem to be that clients, regardless of their inclinations to be verbally fluent, have an equal chance to profit or not to profit from counseling experiences. Thus it seems that the kind of counseling embodied in a behavioral model is equally effective or ineffective with culturally disadvantaged clients, college students, aged clients, etc., all of whom represent wide ranges of verbal competencies. Essentially, the verbal fluency or capacity of the client makes no difference in terms of expected outcomes when the criterion is change in aggression. Clearly, this finding is at variance with Howard's (23) and Williams' (50) assertions. They implied that clients are able to benefit from counseling proportionate to their level of verbally fluency.

Regarding the completed research in the area of modifying human aggression, the implications of the present findings fail to support the findings of Walters, Marshall, and Shooter (47) who surmised from a number of empirical research studies, as well as that of their own, that the effectiveness of behavioral modification procedures in changing behaviors are greater if the observers or recipients of these reinforcers

are emotionally aroused. The disparity between the present findings and those of Walter, Marshall, and Shooter could be due to the fact that the former introduced too much arousal (not quantified by either study) in the treatment mode which resulted in disruption rather than enhancement of the learning process.

The results of the present investigation were found at variance with a study by Patterson and Anderson (36), a study directly related to the present investigation by virtue of the fact that their study employed specific reinforcement contingencies to control clients' aggressive responses. These researchers found a positive relationship between the kind of contingencies used and frequencies with which changes occurred. The implications of the present study is that no such corresponding relationship exists between the reinforcement contingencies and outcomes, i.e., one contingency is as effective or ineffective as the other.

In light of the above assertions, it appears that additional research is needed in the general area of specifying workable therapeutic models for black juvenile delinquents, a group that has ostensibly been ignored or overlooked by counseling psychologists or research psychologists. This need now seems particularly acute since the present study showed that the model, which is a variation of models popularly used in counseling, has deleterious affects on clients. Clearly, this finding should be immediately validated or refuted lest counseling psychologist debilitate the persons whom they intend to rehabilitate.

APPENDIX A

RATING SCALE FOR JUDGING COUNSELOR'S BEHAVIORS

INSTRUCTIONS TO RATER:

Please carefully study this form and feel free to ask questions about any aspect that may not be clear. Your task as a rater is to study the categories below before viewing the video tapes. Then you are to attentively observe the video taped counseling and register reactions to accord with the Likert-type scale below.

Study the form carefully and signal when you are ready for the tapes to start.

-
-
1. Number of counselor's gestures which seemed to express his approval with clients' nonaggressive expressions.

1	2	3	4	5
1 or less	2-3	4-5	6-7	8-9

2. Number of times the counselor smiled which seemed to give evidence that he was expressing approval of clients' nonaggressive expressions.

1	2	3	4	5
1 or less	2-3	4-5	6-7	8-9

3. Number of counselor's utterances that seemed to express approval with clients' nonaggressive behaviors.

1	2	3	4	5
1 or less	2-3	4-5	6-7	8-9

4. Number of counselor's behaviors that seemed to ignore or otherwise fail to respond to clients' aggressive-type expressions.

1	2	3	4	5
1 or less	2-3	4-5	6-7	8-9

5. Number of counselor behaviors that were aversive, indifferent, or incompatible with or to clients' expressions or aggression.

1	2	3	4	5
1 or less	2-3	4-5	6-7	8-9

APPENDIX B

BEHAVIOR RATING SCALE (Data collected by researcher)

STUDENT'S NAME _____ HIS COTTAGE _____

DATE OF RATING _____ PRE RATING _____ POST RATING _____ EXTRA RATING _____

RATER'S NAME _____ HIS JOB _____

INSTRUCTIONS TO RATERS:

I am going to ask you some specific questions about the behaviors of students under your supervision at Cedar Knoll-Children's Center. The information with which you use to answer the following questions should come only from your direct or indirect observations of students' behaviors.

Bear in mind that the results of the information sought will be incorporated into research work and as such will require that you give a great deal of thought to your ratings or answers. Please ask questions if you do not understand the instructions just given or the questions to follow.

OVER ABOUT A TWO OR THREE WEEK PERIOD-----

1. how often does he break up or destroy things? _____
2. how often does he provoke fights? _____
3. how often does he get into fights? _____
4. how often does he disobey you? _____
5. how often does he slam doors, kick objects, etc.? _____

6. how often does he threaten or attempt to kill or otherwise hurt himself? _____
7. how often does he use profane or vile words? _____
8. how often does he break the rules at Cedar Knoll? _____

APPENDIX C

Student's name _____ His cottage _____

Your name _____ Your job _____

Please answer the question below by checking one of the five (5) categories below. Please answer this question based upon your own thoughts, ideas, or memories of the student.

You should not consult with or compare your answer with those of your co-workers.

The question you are to answer is as follows:

How much does the student whom you are rating talk when you are trying to engage him in counseling or some other kind of discussion activity?

Please provide your answer by checking one of the five (5) categories below.

1. _____ He hardly ever talks
2. _____ He talks less than average
3. _____ He talks about average
4. _____ He talks more than average
5. _____ He talks much more than average

APPENDIX D

Raw Scores

Subjects	1	2	3	4	5	6
	Overt Pre	Overt Post	Diff.* Pre/Post	Covert Pre	Covert Post	Diff.** Pre/Post
1	21	36	-15	54	52	+02
2	15	20	-05	57	60	-03
3	24	33	-09	41	53	-12
4	29	21	+08	48	26	+22
5	00	00	00	46	50	-04
6	00	00	00	50	54	-04
7	00	00	00	57	39	+18
8	00	00	00	43	62	-19
9	15	25	-10	53	50	+03
10	29	21	+08	63	67	-04
11	120	40	+80	53	48	+05
12	104	30	+74	68	66	+02
13	36	56	-20	38	45	-07
14	36	70	-34	29	30	-01
15	58	103	-50	57	30	+27
16	140	80	+60	60	45	+15
17	26	38	-12	39	43	-04
18	52	52	00	50	47	+03
19	160	38	+122	52	40	+12
20	81	54	+27	54	54	00

Subjects	1 Overt Pre	2 Overt Post	3 Diff.* Pre/Post	4 Covert Pre	5 Covert Post	6 Diff.** Pre/Post
21	76	38	+38	67	61	+06
22	15	15	00	44	31	+13
23	16	15	+01	67	67	00
24	25	17	+08	41	37	+04
25	04	06	-02	26	36	-10
26	24	09	+15	59	43	+16
27	24	40	-16	36	35	+01
28	16	10	+06	63	57	+06
29	53	28	+25	50	58	-08
30	73	69	+04	45	43	+02
31	63	02	+61	31	36	-05
32	24	00	+24	41	51	-10
33	09	10	-01	50	55	-05
34	20	07	+13	55	53	+02
35	37	00	+37	65	69	-04
36	50	13	+37	24	24	00
37	27	00	+27	45	70	-25
38	14	15	-01	64	66	-02
39	11	03	+08	67	57	+10
40	89	05	+84	59	56	+03

*A constant of 100 has been added to each score.

**A constant of 50 has been added to each score.

APPENDIX E

0 hour group

<u>Clients</u>	<u>Counselors</u>	<u>Teachers</u>
A	16	12
B	20	18
C	9	16
D	12	15
E	12	18
F	10	9
G	14	9
H	12	12
I	10	14
J	9	14
	M = 12.4	M = 13.7
	SD = 3.3	SD = 2.6
	$r = .60$	

3 hour group

<u>Clients</u>	<u>Counselors</u>	<u>Teachers</u>
A	20	10
B	18	17
C	15	14
D	14	13
E	17	19
F	19	20
G	20	12
H	20	20
I	18	15
J	17	16
	M = 17.8	M = 15.6
	SD = 2.0	SD = 3.2
	$r = .64$	

6 hour group

<u>Clients</u>	<u>Counselors</u>	<u>Teachers</u>
A	15	19
B	9	10
C	20	19
D	20	18
E	15	15
F	15	12
G	12	12
H	18	10
I	14	9
J	15	15
	M = 15.3	M = 13.9
	SD = 3.2	SD = 3.4
	y = .58	

2 hour group

<u>Clients</u>	<u>Counselors</u>	<u>Teachers</u>
A	10	12
B	14	13
C	18	15
D	15	13
E	19	11
F	17	20
G	10	8
H	19	18
I	15	16
J	8	12
	M = 14.5	M = 13.6
	SD = 2.8	SD = 3.1
	y = .66	

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