

THE CONSTRUCTION AND VALIDATION OF  
SCALES TO MEASURE TRANSACTIONAL  
ANALYTIC EGO CONSTANCY STATES

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## PREFACE

This study is concerned with the development of a psychometric instrument to measure ego constancy, a basic concept in Transactional Analysis. The primary objective is to apply some empirical concepts to a personality theory which is essentially verbal and descriptive.

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## CHAPTER I

### INTRODUCTION AND STATEMENT OF PROBLEM

Transactional Analysis (TA) refers to the theory of personality and the approach to psychotherapy developed by Eric Berne. Berne began developing TA concepts in the middle fifties, and he shared these concepts with colleagues in seminars. Through publication of Transactional Analysis in Psychotherapy and Games People Play, he communicated TA concepts to much wider professional and lay audiences (Berne, 1961, 1964). Berne's (1972) last book, What Do You Say After You Say Hello?, was published posthumously.

Two other substantial contributors are Thomas A. Harris and Claude Steiner. Harris (1967) published I'M O.K.-- You're O.K. Steiner (1971, 1974) published Games Alcoholics Play and Scripts People Live.

TA is essentially an ego psychology which assumes three basic ego states: Parent, Adult, and Child. The Internal Parent contains those "should," "ought," and "must" statements which the individual has incorporated from parents and other authority figures. The Internal Parent also includes statements which reflect the value system developed and accepted by the individual. The External Parent (paternal interaction with others) includes all the



behaviors normally associated with parents, i.e., guiding, nurturing, scolding, etc. As Jongeward (1971) stated:

Most parents are sympathetic, protective, and nurturing on some occasions and critical, prejudicial, moralizing, or punitive on others (p. 108).

#### Nurturing Parent

Sometimes the nurturing aspects of the Parent are oversolicitous and other people resent it. Let's look at a few examples. When some people are ill, they resent having another adult 'hover' over them. Some patients would rather have their doctor tell them the truth than have him "protect" them from it. As one boss complained, 'If there's the slightest indication of rain, my secretary insists I carry an umbrella. Sometimes I sneak out before she catches me (James & Jongeward, 1971, pp. 110-111).

#### Prejudicial Parent

The Parent ego state tends to be filled with opinions about religion, politics, tradition, sexual role expectations, life styles, child rearing, proper dress, (and) speech.... These opinions, often irrational, may not have been evaluated by the Adult ego state and may be prejudiced.

When operating prejudicially with children, parents attempt to set standards of behavior on the basis of these erroneous opinions rather than on the basis of facts.... People often use their Prejudicial Parent when transacting with other adults.

The Prejudicial Parent is often critical. A person acting from the critical side of his Parent may come on as a bossy, know-it-all whose behavior intimidates the Child in other people. A boss, spouse, teacher, or friend who frequently uses his Critical Parent may irritate other people and perhaps alienate them (James & Jongeward, 1971, pp. 110-111).

The Adult ego state is the source of accurate reality testing. It collects data and functions as the individual's "computer." The prime function of the Adult is rational decision making. The Child ego state is characterized by the feelings and behaviors of a person prior to age eight. Behaviorally, Child ego function includes dependency and intense emotion.

### The Natural Child

The Natural Child within each person's Child ego state is what a baby would be 'naturally' if nothing influenced him to be otherwise. The Natural Child is affectionate, impulsive, sensuous, uncensored, (and) curious... By nature, he seeks pleasure over pain.

An infant is curious about his world. He looks at it, feels it, and often tries to taste it. The frizz of a teddy bear tickles him; the movement of a mobile above his crib captures his attention. These and other things an infant sees, hears, smells, and touches he shapes into primitive mental images from which he builds an uncensored fantasy life. Later in life these preverbal fantasies may take the form of recurring dreams, often of a symbolic nature.

When a child begins to use language, his fantasies become more sophisticated. They are frequently of unrestricted pleasure or aggression. In a grown man these fantasies may take the form of imagining he is surrounded by beautiful women who bring him comfort and delight, asking nothing in return. Or they may take the form of aggressively telling off a boss or beating someone up. Fantasizing is one way a grown-up experiences his natural child.

Have you ever noticed an elderly man on a park bench licking an ice cream cone with obvious delight, or a middle-aged woman skipping along an ocean beach, or a couple dancing together in joyful abandonment? If so, you saw the Natural Child has value. It adds charm and warmth to his person-

ality just as real children can add charm and warmth to a family. When a person maintains his child-like capabilities for affection, spontaneity, sensuality, curiosity, and is fun to be around... (James & Jongeward, 1971, pp. 128-130).

### The Adapted Child

Immediately after birth, an infant begins to adapt to the demands of outside authority. He does this out of his will to survive and his need for approval and/or the anxiety of fear. Because the child is born without a sense of what is right or wrong, his first sense of conscience develops very slowly from interaction with his environment, particularly with his parent figures... A child's adaptations (to parental demands) result in what Berne calls the Adopted Child.

Whereas some adaptation of natural impulses is essential, many children experience training that is unnecessarily repressive. (Such a child... may adapt by losing his ability to feel for himself, to be curious about the world, to give and receive affection. His natural expressiveness becomes overly inhibited.... The Adapted Child is likely to do what parents want him to do, rational or irrational, and may learn to feel not-OK. Common patterns of adaptation are: complying, withdrawing, procrastinating. Some children choose to comply in order to get along. They find that complying without question is easier, more practical, and less anxiety-provoking than battling for their own position or ideas.

Although many children comply with parental demands, they often do not do so graciously. Frequently, a child chooses to sulk. Something happens in early life which makes him mad at authorities. Instead of rebelling, he hangs on to his resentments, grudgingly does what is asked, continues to sulk, and then blames others when things go wrong. (James & Jongeward, 1971, pp. 135-137).

All three ego states are deemed essential to the healthy personality. Each type of ego function is capable

of positive contributions to the individual's life. However, fixation within a particular ego state(s) is viewed as a pathological sign. Fixation is referred to as ego constancy. Ego Constancy is characterized by:

rigid ego boundaries (which) do not permit the free movement of psychic energy. It is as though a thick wall holds the psychic energy bound up in one ego state, excluding the other two. This phenomenon is called exclusion. The behavior of persons with this problem appears rigid because they tend to respond to most stimuli with only one of their ego states. The person always comes on Parent, always comes on Adult, or always comes on Child.... A variation of this problem is found in the person who turns off only one ego state (James & Jongeward, 1971, pp. 228-231).

#### The Constant Parent

A person who operates primarily from the Parent ego state often treats others, even business associates, as if they were children. Such behavior can be found in the secretary who 'takes care of' everyone's problems at the office or in a corporation boss who tries to run the personal lives of his staff, who cannot be approached reasonably, or who displays little or no sense of humor. Either knowingly or unknowingly the Constant Parent collects people who are willing to be dependent upon or subordinate to him and often casts himself with someone in the complementary role of Constant Child.

One type of Constant Parent is hardworking and has a strong sense of duty. He may be judgmental, critical of others, and moralistic. He may neither laugh nor cry from his Child, nor be objectively reasonable from his Adult. He knows all the answers, manipulates others from the top-dog position and is domineering, overpowering, and authoritarian.

Specific kinds of occupations which offer authority over others attract this domineering type of person. Some presidents of business firms, some homemakers, some officials in church or school hierarchies, some political or military figures,

and indeed some dictators seek these positions because it fulfills their need to have parental power over others. Many multimillion-dollar businesses were originally carved out by one strong-determined man of this nature whose employee/employer relationships were those of compliant Child and authoritarian Parent.

Another type of Constant Parent is the perpetual nurturer or rescuer. He may play the role of benevolent dictator or he may come on as a saintly person who devotes his life to helping others.... A constant nurturer is often drawn to one of the 'helping' professions and may be very effective. Yet, if he keeps others unnecessarily dependent, he is overindulging his nurturing capabilities and does more harm than good (James & Jongeward, 1971, pp. 228-231).

### The Constant Adult

The person who operates primarily as Constant Adult is consistently objective, uninvolved, and concerned primarily with facts and data processing. He may appear unfeeling and unsympathetic. He may not empathize with someone who has a headache, and may be a bore at a party.

People who exhibit the rigid boundary problem of the Constant Adult may seek jobs that are object-oriented. They may select vocations where abstract thinking devoid of emotion is valued. They may be attracted, for example, to accounting, computer programming, engineering, chemistry, physics, or mathematics.

The Constant Adult often experiences trouble on the job if he is given a position that requires supervising others. With little-caring Parent or fun-loving Child, his relationships are likely to be sterile. His subordinates may be unhappy because he gives them so little stroking. Many work situations suffer if there is no one acting as a nurturing Parent. A physician with this problem may make competent diagnoses, but his patients may complain that he lacks a 'bedside manner,' that he is cold, aloof, and doesn't care about them. A patient on the operating table may be emotionally better prepared for surgery if the doctor says parentally, Now don't worry. We'll take good care of you, rather than factually, You have a 50-50 chance of surviving this operation. (James & Jongeward, 1971, pp. 228-231).

## The Constant Child

The person who operates primarily as Constant Child is the one who is the perpetual little boy or girl who, like Peter Pan, doesn't want to grow up. He doesn't think for himself, makes his own decisions, or take responsibility for his own behavior. He may exhibit little conscience in his dealings with other people. The Constant Child attaches himself to someone who will take care of him. A man or woman who wants to be 'kept,' babied, punished, rewarded, or applauded is likely to seek out a Constant Parent who can afford him.

People with this ego boundary problem are often successful as performers on the stage or on the playing field. However, without adequate adult functioning, the performer may spend his large salary impulsively, often ending up broke. Other types of jobs that may appeal to the Constant Child are those that are highly routine and require no decision-making, for example, assembly line worker (James & Jongeward, 1971, pp. 228-231).

TA theory strongly indicates the Child ego state in most psychopathologies. The individual's existential position is the result of a decision on the part of the Child. The four existential positions introduced by Harris (1967) are:

1. I'm O.K., You're O.K.
2. I'm O.K., You're not O.K.
3. I'm not O.K., You're O.K.
4. I'm not O.K., You're not O.K.

Position #1 is the only healthy position. Position #2 results in a sociopathic personality. Position #3 constitutes a neurotic nucleolus. Position #4 is the basis of despairing, depressive pathology.

Games (as defined in TA) are played to confirm the existential position adopted by the Child. Of the ten games fully analyzed by Berne (1964), seven have a payoff for the Child in terms of the internal psychological advantage. In TA theory games are pathological.

An individual's existential position and the games he chooses to play are consistent with the life plan or life script adapted by the Child (Steiner, 1971). Scripts are usually pathological.

Thus, TA theory indites the Child in the vast majority of psychopathologies.

TA publications of a theoretical nature have been numerous in recent years. However, empirical treatment of TA constructs has been virtually non-existent. TA uses a contract approach to psychotherapy. Dunsay (1971) reported that TA clinicians in private practice report that more than 80 per cent of (their) patients fulfill their treatment contracts. Breen (1970) devised a scale ranging from minus three to plus three for clinical use as a means of quantifying therapeutic progress in TA. Each integer from minus three to plus three corresponds to a verbal description of the client's behavior. These publications represent initial attempts to quantify TA concepts.

The virtual absence of empirical study of TA is related to the absence of instruments designed to measure TA theoretical constructs. The purpose of this study is the construction and validation of a questionnaire which yields

scores for each of three TA theoretical constructs: Constant Parent, Constant Adult, and Constant Child. Once this psychometric instrument has been constructed and validated, it will be possible to explore the relationships between ego constancy in TA and related constructs associated with other models in psychology. Further, this instrument may be used by TA psychotherapists as a diagnostic aid.



## CHAPTER II

### METHODOLOGY

The construction and validation of the psychometric instrument in question required three separate subject pools:

1. An internal validity pool (IVP)
2. A norm group pool (NGP)
3. A clinical pool (CP)

The IVP consisted of 200 college students from Mount Saint Mary's College, Emmitsburg, Maryland and Shippensburg State College, Shippensburg, Pennsylvania. All subjects were students in introductory psychology courses. Questionnaires were distributed in these classes. No extra credit was given for participation. Participation was voluntary. Subjects were told that if they did not wish to participate, they were to turn in their blank questionnaires with complete assurance of anonymity. The IVP was assumed to be a non-clinical pool.

The NGP also consisted of 200 subjects. Seventy-two subjects were college students from Shippensburg State. Twenty-eight subjects were students in a private, Catholic high school (Delone) in McSherrystown, a central Pennsylvania town. These two scholastic groups were given the same options with respect to participation which were given to the members of the IVP.

The remaining 100 subjects were adults drawn from the Central Pennsylvania towns of Littlestown, Hanover, and Gettysburg. The NG as a whole was quite heterogeneous with respect to age, education, and socio-economic status. These adult subjects were collected at social gatherings attended by the author or his assistant. Upon arrival at the social function, each subject was given a questionnaire and asked to anonymously deposit the questionnaire in a box. In order to further guarantee anonymity, subjects were not asked for any identifying information, e.g., name, sex, age, etc.

The CP consisted of 22 patients receiving outpatient psychotherapy during the first half of 1976 at the Adams-York Mental Health Clinic in Hanover, Pennsylvania. Patients in this group carried a variety of diagnostic labels.

The apparatus required for this study included a pool of test items which possess face (logical) validity with respect to the theoretical constructs of Constant Parent, Constant Adult, and Constant Child. James and Longwood (1971) gave descriptions of the behaviors associated with the various forms of ego constancy. These descriptions were used as a basis for writing test items. In this manner 71 preliminary items were generated.

The apparatus required for this study also included a set of instructions for subjects and provision for a mode of response. The instructions and response mode which follow were adapted from Schutz (1957):

For each statement below decide which of the following answers best applies to you. Place the answer to the left of the statement. Please be as honest as you can.

1. NEVER
2. RARELY
3. OCCASSIONALLY
4. SOMETIMES
5. OFTEN
6. ALWAYS

The first procedure in this study was the administration of the total item pool to the IVP. The scaling model assumed was the summative (linear) model described by Nunnally (1967). Consequently, each subject's score on each of the three dimensions was the algebraic sum of individual response scores.

Each item in each scale was required to have a significant positive correlation with the total score for the particular scale with which it is associated. Therefore, item analysis was executed, and items which have a significant positive correlation with their respective scale scores were considered for retention in the final instrument.

However, it is possible for an item to be quite useless even though it possesses statistical significance. For example, an item may have a correlation coefficient of .02 with the scale to which it is assigned. Because the IVP contained a large number of subjects, such a correlation was statistically significant. However, the per cent of variability in one variable which is explained by another variable is a function of the square of the correlation coefficient between them. Therefore, in the presence of a

correlation coefficient of .02, only .04% of the variability is explained. Such an item is useless from a practical point of view, even though the item is significant statistically.

When the internal validity study was executed, very few items were rejected because they did not attain statistical significance. But many items were meaningless even though they were statistically significant. Consequently, an arbitrary decision was made to retain the sixteen strongest items on each scale. This decision yielded a final questionnaire of 48 items.

It is desirable, when executing an item analysis, to subtract the value of the item from the scale with which it is associated before running the correlation. Otherwise, a spurious correlation is introduced into the data. This procedure was followed in the procedure for the above-described item analysis.

The second step in this study is the discussion of the face (logical) validity associated with items retained for the finalized questionnaire. Any validity study is concerned with the question, "Does this test measure whatever it is designed to measure." Of the various approaches to the study of validity, the face validity approach is the weakest from an empirical point of view. Face validity depends upon verbal concept formation. It is concerned with the subsumption of concepts under a more general concept. The assertion of subsumption is usually based on both

reason and belief. There is no guarantee that the reasoning and/or the belief are accurate.

Nevertheless, face validity is important in this study because TA theory states that the general concepts of Parent, Adult, and Child ego function are not merely social roles. They are existential realities. For example, when a chronological adult functions in the TA Child, the person is not merely assuming the social role of a child. The person feels and behaves as a child does, and is really in a child mode of being.

In the finalized questionnaire each of the three scales (Parent, Adult, and Child) has 16 items associated with it for a total of 48 items. The items associated with the Parent scale are:

1. Others say I do their thinking for them.
2. I believe others have a lot to learn.
3. I like to give directions to other people.
4. I tell other people what they should do.
5. I am a domineering person.
6. I let others make their own decisions. (This item contributes negatively to the Parent scale.)
7. Others say I never let them stand on their own two feet.
8. I like to be the boss.
9. I like to tell other people what to do.
10. Others say I think I have all the answers.
11. Others say I put words in their mouths.

12. I am accepting of others. (Contributes negatively to the scale.)
13. I treat other people as if they were children.
14. Others say I "bulldoze" them.
15. I treat other people as adults. (Contributes negatively.)
16. I am critical of others.

Parent items not retained in the final scale are:

1. People are dependent upon me.
2. I am tolerant of others. (Contributes negatively.)
3. I like to help others.
4. Others say I'm unapproachable.
5. I am a submissive person. (Contributes negatively.)
6. I believe I am right.

TA theory differentiates two forms of Parent function. The first which is called the Nurturing Parent, is gentle, supportive, and guiding. Within reason, Nurturing Parent behavior is seen as appropriate. The second form of Parent function, called the Prejudiced Parent, is oppressive, domineering, suppressive, and intolerant. Prejudiced Parent functioning is viewed by TA theory as undesirable and pathological. The test instrument was designed to detect fixated and inappropriate ego function. Therefore, the original item pool and the items which survived item analysis tend to focus upon the Prejudiced Parent.

Essentially, all test items constitute a self report from the subject. But some items have an additional twist.

They ask the subject to report on feedback received from other people. The weakness of self report is known to the author. It was hoped that subjects may be more objective in reporting feedback from others than they are in reporting their own subjective self-evaluations.

Inspection of the above Parent items leads to the concept of a person who behaves like a restrictive parent toward all others, not just biological children. The person mentally conceived is pushy and prejudiced to the point that others are not permitted to think, know, feel, or act independently. Others are not even extended the freedom to exist apart from the all-engulfing parent.

TA theory also separates Parent ego function into two other categories. These two categories are the Internal Parent and the External Parent. The concept of Internal Parent is related to, but not identical to, the Freudian concept of superego. The Internal Parent is related to the concept of conscience. The Internal Parent includes all of the moral and ethical values accepted by the person. The External Parent refers to parental interaction with others (either Nurturing Parent or Prejudiced Parent.)

Obviously, the above Parent test items are primarily related to External Parent functioning rather than Internal Parent functioning, and to Prejudiced Parent functioning, rather than Nurturing Parent function.

The items associated with Adult ego function in the finalized questionnaire are:

1. My relationships with others are sterile.
2. People say I don't care about them.
3. People say I'm hard to reach.
4. I am interested in facts.
5. I am rational in spending money.
6. Others say I'm unfeeling.
7. People say I'm cold.
8. I am analytical.
9. Others say I'm a feeling person. (Contributes negatively.)
10. I am rational.
11. I am machine like.
12. Others say I'm unsympathetic.
13. Others say I'm a warm person. (Contributes negatively.)
14. New ideas interest me.
15. Others say I'm concerned about them. (Contributes negatively.)
16. Others say I'm a sympathetic person. (Contributes negatively.)

Adult items not retained in the final questionnaire are:

1. I draw conclusions before I get the facts. (Contributes negatively.)
2. At social gatherings I talk shop.
3. At social gatherings I read magazines.
4. I am a subjective thinker. (Contributes negatively.)



In TA theory an individual's Adult is his "computer." The Adult is concerned with reality contact, ideas, and decisions. The TA concept of the Adult is related to, but not identical to, the Freudian concept of ego. The Adult is not concerned with feelings, nor is it concerned primarily with others. The Adult is preoccupied with facts.

The preceding Adult test items generate the picture of a person who is an intellectual who focuses on data and reality-oriented decisions. The Adult ego state admits of very little feeling and is, therefore, perceived by others as unemotional and unsupportive.

The items associated with Child ego function in the finalized questionnaire are:

1. I become weak in the face of problems and decisions.
2. I let others make my decisions.
3. Others put words in my mouth.
4. I like to be rewarded.
5. I am jealous of others.
6. Others give me the answers.
7. I look to others for support.
8. I say "I can't" when I really mean "I won't" or "I don't want to."
9. I panic in the face of problems and decisions.
10. Others keep me in my place.
13. I like people to take care of me.
14. I give others authority over me.
15. I look to others for approval.

16. Others do my thinking for me.

Child items not retained in the final questionnaire are:

1. I spend money impulsively.
2. I take responsibility for my behavior. (Contributes negatively.)
3. I would like to be a "kept" man or woman.
4. Being pampered annoys me. (Contributes negatively.)
5. Others come to my rescue.
6. I like others to advise me how to run my life.
7. I like to be applauded.
8. I like to be punished.
9. I like to be babied.
10. Others smother me with attention.

According to TA theory the Child ego state is characterised by intense emotion, positive or negative. Much of the emotional shading and tone in an individual's life is a function of the Child ego state. The Child can be happy or sad, elated or depressed. But the Child is (like the Parent) essentially irrational. The Child loves to play, and does not accept responsibility. The above test items obviously focus upon negative, rather than positive, Child ego functions.

The image generated by the preceding Child test items is that of a person who loves attention, is jealous of others, and extremely dependent. There is also the suggestion of a passive-aggressive personality. The individual seeks

to be dependent on others. However, once the dependence is established, the immature Child begins to experience hostile feelings toward the person(s) depended upon, and blames supportive figures for their own failures.

The preliminary and final questionnaires in the form presented to subjects can be found in Appendices A and B, respectively.

The third procedure in this study was the administration of the finalized questionnaire to the NGP described above. Subjects' scores on each scale were converted to T-scores in order to eliminate the possibility of negative scores and to facilitate the comparison of future subjects' scores with those of the norm group. These standard scores can be found in Appendix C.

The fourth procedure in this study was the computation of a coefficient of internal consistency for each scale. Odd numbered items on each scale were summed; even numbered items on each scale were summed; and the split-half reliability coefficients were computed.

The fifth procedure in this study was the computation of test-retest reliability for each scale. Seventy-two subjects from the NGP were retested approximately one week after initial testing and a coefficient of stability for each scale was computed.

The sixth procedure in this study was a demonstration of concurrent validity associated with each scale. If TA theory is correct in its assertion that constancy of ego

state is a pathological sign, and if the constructed test does measure constancy of ego state, then the test should discriminate clinical from non-clinical groups. Specifically, TA theory predicts that in relation to the norm group mean, a group of clinical subjects should have a greater relative frequency of extreme scores than the norm group itself on each of the three dimensions. Therefore, a random selection of 22 protocols was made from the NGP and compared with the protocols of the CP.

## CHAPTER III

### DATA ANALYSIS

In all tests of significance in this study alpha was set at .05.

The Pearson Product Moment Correlation was used for the following computations:

1. Item analysis
2. Coefficients of internal consistency.
3. Coefficients of stability.
4. Intercorrelation between scales.

In the item analysis the null hypothesis was:

$$H_0: \rho_{xy} = 0$$

Where:

$H_0$  = the null hypothesis

$\rho$  = value of the population correlation

$x$  = item score

$y$  = scale score -  $x$ .

The appropriate test statistic is Student's  $t$ :

$$t = \frac{r_{xy} \sqrt{N - 2}}{\sqrt{1 - r_{xy}^2}}$$

with  $N - 2$  degrees of freedom (Hays, 1963, p. 529).

In this one-tailed test the critical value of  $\underline{t}$  was 1.658 (Hays, 1963, p. 674). Substituting this value for  $\underline{t}$  and solving for  $\underline{r}$  in the above equation, the critical value of  $\underline{r}$  was found to be .014.

Below is a list of all 71 items used in the preliminary questionnaire. Each item is followed by its correlation coefficient. Preceding each item is a designation indicating the scale with which the item is associated and a plus (+) or minus (-) sign which indicates a positive or negative contribution to the scale with which it is associated.

1. (C+) I spend money impulsively.  
 $\underline{r} = .206$
2. (A+) My relationships with others are sterile.  
 $\underline{r} = .266$
3. (C-) I take responsibility for my behavior.  
 $\underline{r} = .195$
4. (P+) People are dependent upon me.  
 $\underline{r} = .117$
5. (A-) I draw conclusions before I get the facts.  
 $\underline{r} = -.027$
6. (P-) I am tolerant of others.  
 $\underline{r} = .059$
7. (C+) I become weak in the face of problems and decisions.  
 $\underline{r} = .571$
8. (A+) At social gatherings I talk shop.  
 $\underline{r} = .056$

9. (C+) I let others make my decisions.  
 $\underline{r} = .604$
10. (P+) Others say I do their thinking for them.  
 $\underline{r} = .210$
11. (C+) Others put words in my mouth.  
 $\underline{r} = .546$
12. (C-) I like to be rewarded.  
 $\underline{r} = .330$
13. (C+) I am jealous of others.  
 $\underline{r} = .543$
14. (C+) Others give me the answers.  
 $\underline{r} = .451$
15. (C+) I look to others for support.  
 $\underline{r} = .456$
16. (C+) I would like to be a "kept" man or woman.  
 $\underline{r} = .218$
17. (C+) I say "I can't" when I really mean "I won't" or  
"I don't want to."  
 $\underline{r} = .344$
18. (P+) I like to help others.  
 $\underline{r} = -.140$
19. (P+) I believe I am right.  
 $\underline{r} = .202$
20. (C+) I like to bug the authorities.  
 $\underline{r} = .120$
21. (P+) I believe others have a lot to learn.  
 $\underline{r} = .598$

22. (C+) I panic in the face of problems and decisions.  
 $\underline{r} = .598$
23. (P+) I like to give directions to other people.  
 $\underline{r} = .358$
24. (P+) I tell people what they should do.  
 $\underline{r} = .602$
25. (P+) I am a domineering person.  
 $\underline{r} = .528$
26. (P-) I let others make their own decisions.  
 $\underline{r} = .315$
27. (P+) Others say I never let them stand on their own  
two feet.  
 $\underline{r} = .412$
28. (P+) Others say I'm unapproachable.  
 $\underline{r} = .101$
29. (P+) I like to be the boss.  
 $\underline{r} = .534$
30. (A+) People say I don't care about them.  
 $\underline{r} = .504$
31. (A+) People say I'm hard to reach.  
 $\underline{r} = .366$
32. (A+) I am interested in facts.  
 $\underline{r} = .105$
33. (A+) I am rational in spending money.  
 $\underline{r} = .028$
34. (A+) Others say I'm unfeeling.  
 $\underline{r} = .543$



35. (A+) People say I'm cold.  
 $\underline{r} = .508$
36. (C-) Being pampered annoys me.  
 $\underline{r} = .221$
37. (C+) I dislike making decisions.  
 $\underline{r} = .512$
38. (A+) At social gatherings I read magazines.  
 $\underline{r} = .016$
39. (A+) I am analytical.  
 $\underline{r} = .205$
40. (A-) Others say I'm a feeling person.  
 $\underline{r} = .382$
41. (A+) I am rational.  
 $\underline{r} = .164$
42. (C+) I turn my back on problems and decisions.  
 $\underline{r} = .559$
43. (A+) I am machine like.  
 $\underline{r} = .498$
44. (A+) Others say I'm unsympathetic.  
 $\underline{r} = .551$
45. (C+) Others come to my rescue.  
 $\underline{r} = .264$
46. (C+) Others keep me in my place.  
 $\underline{r} = .264$
47. (P+) I like to tell other people what to do.  
 $\underline{r} = .506$

48. (P-) I am a submissive person.  
 $\underline{r} = -.011$
49. (A+) I am objective.  
 $\underline{r} = .036$
50. (A-) People say I'm a warm person.  
 $\underline{r} = .393$
51. (P+) Others say I think I have all the answers.  
 $\underline{r} = .446$
52. (A-) New ideas interest me.  
 $\underline{r} = .131$
53. (P+) Others say I put words in their mouths.  
 $\underline{r} = .505$
54. (C+) I like people to take care of me.  
 $\underline{r} = .434$
55. (C+) I wish I could become a child again.  
 $\underline{r} = .120$
56. (P-) I am accepting of others.  
 $\underline{r} = .204$
57. (C+) I give others authority over me.  
 $\underline{r} = .365$
58. (C+) I look to others for approval.  
 $\underline{r} = .332$
59. (A-) Others say I'm concerned about them.  
 $\underline{r} = .366$
60. (C+) I like others to advise me how to run my life.  
 $\underline{r} = .215$

61. (P+) I treat other people as if they were children.  
 $\underline{r} = .344$
62. (C+) I like to be applauded.  
 $\underline{r} = .065$
63. (A-) Others say I'm a sympathetic person.  
 $\underline{r} = .362$
64. (C+) I like to be punished.  
 $\underline{r} = .140$
65. (P+) Others say I "bulldoze" them.  
 $\underline{r} = .420$
66. (P-) I treat other people as adults.  
 $\underline{r} = .204$
67. (C+) Others do my thinking for me.  
 $\underline{r} = .360$
68. (A-) I am a subjective thinker.  
 $\underline{r} = -.036$
69. (C+) I like to be babied.  
 $\underline{r} = .296$
70. (C+) Others smother me with attention.  
 $\underline{r} = .058$
71. (P+) I am critical of others.  
 $\underline{r} = .296$

Of the 71 original items, only three were rejected because they did not attain statistical significance. As stated previously, the 16 items on each of the three scales (Parent, Adult, and Child) which have the highest correlations with their respective scale scores were retained in

the final questionnaire. The 48 items which were ultimately accepted have correlation coefficients ranging from .028 to .604.

Using the Pearson Product Moment Correlation, a coefficient of internal consistency was computed for each of the three scales, i.e., Parent, Adult, and Child. With computer assistance, the odd numbered items on each scale were summed; the even numbered items on each scale were summed; and the split-half reliability coefficients were computed. The split-half reliability coefficients, after application of the Spearman-Brown correction for split-half reliability (Nunnally, 1970), can be found in Table I.

TABLE I  
SPLIT-HALF RELIABILITY COEFFICIENTS FOR  
THE PARENT, ADULT, AND  
CHILD SCALES

Scale	r
Parent	.869
Adult	.607
Child	.824

Also, with computer assistance a computation of test-retest reliability was completed using the Pearson Product Moment Correlation. Seventy-two subjects in the norm group pool (NGP) were retested approximately one week after initial testing and a coefficient of stability was computed for each of the three scales, i.e., Parent, Adult, and Child. The coefficients of stability can be found in Table II.

TABLE II  
TEST-RETEST RELIABILITY COEFFICIENTS  
FOR THE PARENT, ADULT, AND  
CHILD SCALES

Scale	r
Parent	.911
Adult	.878
Child	.899

Again, with computer assistance intercorrelations among scales were computed using the Pearson Product Moment Correlation. The results of these intercorrelations can be found in Table III.

TABLE III  
 INTERCORRELATIONS BETWEEN THE  
 PARENT, ADULT, AND  
 CHILD SCALES

	CP	CA	CC
Constant Parent (CP)	—	.243	.205
Constant Adult (CA)		—	-.027
Constant Child (CC)			—

The last procedure in this data analysis involves the demonstration of concurrent validity associated with each scale. If TA theory is correct in its assertion that constancy of ego state is a pathological sign, and if this newly-constructed test does measure constancy of ego state, then the test should discriminate clinical from non-clinical groups. Specifically, TA theory predicts that in relation to the norm group mean, a group of clinical subjects should have a greater relative frequency of extreme scores than the norm group itself possesses. For purposes of this examination of concurrent validity, the term, extreme score, is defined as any score greater than  $\pm 2$  standard deviations from the norm group mean. This criterion is the author's operational definition of the concept of abnormality.

To test this one-tailed hypothesis Pearson's Chi-Square test was employed (Tables IV, V, & VI). The Null Hypothesis would predict that in relation to the norm group mean, the relative frequency of extreme scores in the clinical group is equal to or less than the relative frequency of extreme scores in the norm group. The Alternative Hypothesis would predict that in relation to the norm group mean, the relative frequency of extreme scores in the clinical group is greater than the relative frequency of extreme scores in the norm group. The Alternative Hypothesis was accepted,  $\chi^2 (1) = 5.78, p < .05$ , on the Parent Scale.

TABLE IV  
SUMMARY OF CHI-SQUARE DATA OF  
CONCURRENT VALIDITY ON THE  
PARENT SCALE

	Parent Scale	
	Non-Clinical	Clinical
$\leq \pm 2s$	O = 194.00	O = 19.00
	E = 191.89	E = 21.11
$\geq \pm 2s$	O = 6.00	O = 3.00
	E = 8.11	E = .89

The Alternative Hypothesis was also accepted on the Chi-Square tests in the Adult,  $\chi^2 (1) = 4.52, p < .05$ , and Child,  $\chi^2 (1) = 45.43, p < .05$ , scales (Tables V & VI).

TABLE V  
SUMMARY OF CHI-SQUARE DATA OF  
CONCURRENT VALIDITY ON  
THE ADULT SCALE

	Adult Scale	
	Non-Clinical	Clinical
$\leq \pm 2s$	O = 165.00 E = 161.26	O = 14.00 E = 17.74
$\geq \pm 2s$	O = 35.00 E = 38.74	O = 8.00 E = 4.26

Ego constancy means a tendency to spend an inordinate percentage of one's time in one ego state(s) with the effect of reducing the percentage of time in other ego states. Thus, pathological subjects should spend too much or too little time in various ego states. The above statistical tests imply that clinical subjects are extremists in terms



of ego state function who lack the flexibility to move with ease from one ego state to another.

TABLE VI  
SUMMARY OF CHI-SQUARE DATA OF  
CONCURRENT VALIDITY ON  
THE CHILD SCALE

	Child Scale	
	Non-Clinical	Clinical
$\pm 2s$	O = 194.00 E = 186.49	O = 13.00 E = 20.51
$\pm 2s$	O = 6.00 E = 13.51	O = 9.00 E = 1.48

Transactional analytic theory strongly indicates the Child ego state in psychopathology. Inappropriate function in the Child ego state is seen as the essence of most psychopathologies. Mental health patients are frequently seen as fixated in the Child ego state.

Therefore, if this newly-constructed instrument measures ego constancy and inappropriate function, and if TA

theory is correct, clinical subjects should score higher on the Child scale than non-clinical subjects. In order to test this hypothesis, twenty-two subjects were randomly drawn from the non-clinical norm group and compared with a group of twenty-two clinical subjects. The test statistic employed was the  $t$ -test for two independent samples with degrees of freedom equal to  $N_1 + N_2 - 2$ . A one-tailed test was used. The Null Hypothesis was that the means for the two groups would be statistically equal. The Alternative Hypothesis was that the mean for the clinical group would be higher than the mean for the norm group. The computed  $t$ -value was significant,  $t(42) = 3.02$ ,  $p < .05$ , with the mean for the clinical group ( $M = 59.68$ ;  $s^2 = 185.66$ ) greater than the mean for the non-clinical group ( $M = 44.23$ ;  $s^2 = 99.04$ ).

Rejection of the Null Hypothesis in the above statistical procedure is consistent with the prediction based on TA theory. Clinical subjects do tend to function in a Constant Child ego state.

T-tests on Parent and Adult scales for twenty-two subjects drawn from the non-clinical norm group and twenty-two clinical subjects were also executed. The  $t$ -test for independent samples was employed with alpha at .05 in a non-directional test. The critical value of  $t$  was 2.074. The Null Hypothesis for both tests was that the means of the two groups would be statistically equal. The Alternative Hypothesis was that the means of the two groups would be

statistically different. The  $t$ -test on the Parent scale was not significant,  $t(42) = .576$ ; thus the Null Hypothesis was not rejected. The mean of the non-clinical group was 18.64 ( $s^2 = 53.76$ ); the mean of the clinical group was 20.45 ( $s^2 = 155.59$ ).

The  $t$ -test on the Adult scale was significant,  $t(42) = 2.21$ ,  $p < .05$ ; thus the Null Hypothesis was rejected. The mean for the clinical group ( $M = 24.73$ ;  $s^2 = 76.87$ ) was significantly greater than the mean for the non-clinical group ( $M = 19.05$ ;  $s^2 = 70.05$ ).

The implication of this finding is that clinical subjects function in the Adult ego state more than do non-clinical subjects. This conclusion is inconsistent with TA theory. However, many test items describe Adult behavior which are deemed inappropriate when engaged in to the extreme. This study has already demonstrated that clinical subjects are more variable on all scales. Clinical subjects on the Adult scale tend to give more extreme responses above the mean than below the mean.

This newly-constructed test yields three scores for each subject. Inspection of scores for non-clinical versus clinical subjects yields the following information. First, only 10½% of norm group subjects ( $N = 200$ ) had one or two extreme scores ( $\pm 2s$ ). No norm group subjects had three extreme scores. Second, 68% of the clinical subjects ( $N = 22$ ) had extreme scores. Only one clinical subject had three extreme scores.

Further, inspection of the data led to the observation that no clinical subjects ( $N = 22$ ) achieved a score less than two standard deviations below the norm group mean on any scale. Thus, scores greater than two standard deviations above the mean should provide a more powerful discrimination between the clinical and non-clinical than a criterion of greater than two standard deviations from the mean.

To test this one-tailed hypothesis Pearson's Chi-Square test was employed. The Null Hypothesis would predict that in relation to the norm group mean, the relative frequency of subjects in the clinical group who score more than two standard deviations above the mean on any scale is equal to or less than the relative frequency of such scores in the norm group. The Alternative Hypothesis would predict that in relation to the norm group mean, the relative frequency of such scores in the clinical group is greater than the relative frequency of such scores in the norm group. The Alternative Hypothesis was supported,  $\chi^2 (1) = 57.252$ ,  $p < .05$ .

The data in Table VII can be used to estimate the accuracy of assignment to clinical or non-clinical groups, given that the criterion of abnormality is at least one score greater than 2s above the mean. In the clinical group 68% of the subjects were correctly assigned while 32% were incorrectly assigned to a non-clinical group. In the non-clinical group, 91½% of the subjects were correctly assigned, while 8½% were incorrectly assigned to a clinical group.

TABLE VII  
 SUMMARY OF CHI-SQUARE FOR EXTREME  
 SCORES ON ANY SCALE BETWEEN  
 CLINICAL AND NON-CLINICAL  
 SUBJECTS

	Non-Clinical	Clinical
$\leq + 2s$	O = 183.00	O = 7.00
	E = 171.17	E = 18.83
$\geq + 2s$	O = 17.00	O = 15.00
	E = 28.83	E = 3.17

In an unselected population, i.e., a population in which the subject's correct assignment is not known in advance, the expectation is that 89% of the subjects would be correctly assigned and that 11% of the subjects would be incorrectly assigned.

## CHAPTER IV

### DISCUSSION

This study is an exploratory one. Prior numerical approaches to TA theory have been extremely limited. Most of the professionals interested in TA are primarily clinicians, not researchers. Prior to this study no one really knew if it were possible to quantify TA concepts with good validity and reliability. This study suggests that such quantification is possible. The study has several strengths and weaknesses.

Among the strengths of the study is the fact that each scale was found to have several items with internal validity coefficients greater than .50. Also, the Adult and Child scales have good coefficients of internal consistency, suggesting reasonable uniformity within the scales. Test-retest reliability coefficients are good, suggesting some stability of scores over time. The intercorrelation between scales are desirably low, suggesting that the scales are relatively independent of each other. The implication of this finding is that the scales are measuring mutually exclusive concepts.

Likewise, there are several weaknesses within the study. Probably the weakest area of the study lies in the area of

handling of subjects. There is no guarantee that the various samples of subjects are truly random. In fact, it is obvious that they are not truly random. The author procured adult norm group subjects primarily through third party influence. Almost all of these subjects were personal acquaintances of the person requesting completion of the questionnaire. So the adult non-clinical subjects, if graphed on a socio-gram would have a link to one person. This kind of clustering suggests that violence has been done to the concept of random sampling.

Because these adult non-clinical subjects were personal acquaintances of the person requesting completion of the questionnaire, concern for the protection of anonymity was so great that subjects were not asked for any identifying information. Consequently, description of the subject pool, even in terms of sex and age, is impossible.

In addition, all subject pools were too small. Item analysis pools and norm group pools should contain a minimum of 300 to 1,000 subjects. With respect to the pool of clinical subjects, N should be at least 50% larger.

The second serious weakness in the study lies in the area of item analysis. A preliminary item pool should contain three to four times as many items as the final instrument. In this study a high percentage of the preliminary items were retained in the final scale. In the case of the Adult scale, 80% of the preliminary items were retained. As a consequence some items with low and meaningless coef-

ficients of internal validity were retained in the final scale. A good improvement in this study would be to make the criterion for acceptance in the final instrument a function of a relatively high coefficient of internal validity.

The third area of weakness in this study lies in the field of data analysis. In the Pearson Chi-Square tests for extreme scores on each scale, the expected frequencies are quite low. In a 2 X 2 Chi-Square table each cell should have an expected frequency of at least 10, if a conservative rule of thumb is desired (McCall, 1975, p. 305). Given the limited number of clinical subjects, these low expected frequencies are a function of the author's desire to establish a conservative criterion of abnormality. The author is reluctant to label a subject's performance as "abnormal" unless the subject's performance is significantly different from the norm group.

At this point the author will make several observations. The first observation is relevant to the level of measurement and the use of parametric statistics. Subjects' responses are clearly ordinal. One of the underlying assumptions of the t-test is normality of data. Yet, the graph of clinical subjects' scores on each of the three scales appear to deviate from normality. Why, then, was a parametric technique employed?

First, the t-test is extremely robust with respect to deviations from normality. The reason it is so robust is that the t-test focuses, not on the sample data, but on the



sampling distribution of the mean. The sampling distribution of the mean is likely to be normal even if the sample data is not normal.

Second, a hypothesis concerning differences between means was specifically desired. Non-parametric statistics focus on similarity between distributions. It is possible to get statistically significant results with a non-parametric technique even when means are identical. In the light of this fact, the choice of a parametric technique was more conservative than the choice of a non-parametric technique.

The author found it unusual that no clinical subject scored less than 2s below the mean of the norm group on any scale. Clearly, extremely low scores were not associated with the clinical group. This fact has two implications. First, a high score on one or two scales does not imply a low score(s) on the remaining scale(s). Thus, the expectation from TA theory that ego constancy also implies exclusion of function in one or two ego states is not confirmed. Second, extremely low scores are difficult to interpret. The precise meaning of low scores is unknown. One possibility is that ego constancy represents a continuous, pathological variable. If this is the case, then extremely low scores are a sign of mental health because they represent an extremely low degree of a pathological variable. This interpretation appears to be consistent with the data, since only non-clinical subjects achieved extremely low scores.

Due to the conservative criterion of abnormality established by the author, non-clinical subjects are not likely to be labeled incorrectly as abnormal. Given a non-clinical population this error takes place less than 10% of the time. However, membership in a non-clinical group does not necessarily imply the absence of pathology. In fact, the estimates of the percent of the general population which could benefit from mental health care are generally in the area of 10%. So this type of error in the test is probably much less than 10% because some of the members of a non-clinical group should be receiving mental health care.

The last observations by the author are rather speculative. They concern some guesses about the types of ego constancy associated with various pathologies.

At first the author was unpleasantly surprised by the finding that clinical subjects score significantly higher on Constant Adult than non-clinical subjects score. However, prior reflection based on clinical experience had convinced the author that most neurotic conditions are associated with high ego constancy in the Child, and that most paranoid schizophrenics are characterized by high ego constancy in the Parent and Child along with diminished Adult function. Further reflection suggests to the author that high constancy in the Adult is associated with a tendency toward simple schizophrenia. Like the high constant Adult, simple schizophrenia is associated with flat affect, absence of a sense of humor, and a general absence of an

ability to feel. This consideration renders the performance of the clinical group on the Adult scale more understandable.

## CHAPTER V

### SUMMARY

This study was undertaken in order to begin to apply some empirical concepts to the theory of personality developed by Eric Berne, known as Transactional Analysis (TA). In this initial effort it was deemed desirable to study very basic concepts in TA. The concepts chosen were the three ego states known respectively as Parent, Adult, and Child. TA theory states that fixation in an ego state is pathological, and the pathology is designated as Ego Constancy. Therefore, a questionnaire was developed in order to yield scores for Parent, Adult, and Child functions.

First, the TA literature was culled for descriptions of the nature of the function in each ego state. From these descriptions 71 preliminary test items were developed. These 71 items were administered to 200 college students for purposes of item analysis. After item analysis to establish internal validity, the 16 items on each scale which had the best internal validity were retained for the final questionnaire. Thus, the final questionnaire contained 48 items.

Second, the logical (face) validity of the items was discussed. Inspection of the final items led to several observations:

1. The items on the Parent scale tended to be related to Prejudiced Parent behavior rather than Nurturing Parent behavior.
2. The items on the Child scale tended to emphasize dependent, passive-aggressive behavior. In TA language, the Child items tended to reflect the Adaptive Child rather than the Natural Child. The Natural Child reflects the state of the Child prior to molding by both the appropriate and inappropriate demands of others. The Adaptive Child reflects Child function after modification in order to "get along" with significant others. Frequently, these adjustments to the demands of others are inappropriate and pathological.
3. All scales are heavily weighted with behaviors which are inappropriate, particularly if they are carried to an extreme.

The questionnaire was administered to a very heterogeneous norm group of 200 subjects. Subjects ranged in age from the teens to the forties. In terms of educational level subjects ranged from the completion of the eighth grade to completion of the master's degree. In terms of socio-economic class, subjects ranged from welfare recipients to professional persons. All subjects' scores were transformed to a standard T score to facilitate comparison of future subjects' scores to the norm group.

A coefficient of internal consistency for each scale was computed via a split-half reliability coefficient.

These reliability coefficients were: 1) Parent scale ( $\underline{r} = .869$ ), 2) Adult scale ( $\underline{r} = .607$ ), and 3) Child scale ( $\underline{r} = .824$ ). The reliability coefficient for the Parent and Child scales are respectable. The reliability for the Adult scale is only fair. The TA literature is much more detailed in its descriptions of Parent and Child behavior than it is with respect to Adult behavior. Consequently, the initial item pool contained the fewest Adult items and the coefficients of internal validity associated with Adult items tended to be lowest. (In fact, all three items rejected for the final questionnaire because they did not attain statistical significance were Adult items.) Adult items accepted for the final questionnaire had lower coefficients of internal validity than the items accepted for the Parent and Child scales.

Seventy-two subjects from the norm group were retested approximately one week after initial administration in order to compute a coefficient of stability. The test-retest reliability coefficients for the scales were: 1) Parent scale ( $\underline{r} = .911$ ), 2) Adult scale ( $\underline{r} = .878$ ), and 3) Child scale ( $\underline{r} = .899$ ). All of these coefficients suggest reasonably good stability of scores.

All possible intercorrelations between scales were computed. These intercorrelations were: 1) Constant Parent versus Constant Adult ( $\underline{r} = .243$ ), 2) Constant Parent versus Constant Child ( $\underline{r} = .205$ ), and 3) Constant Adult versus Constant Child ( $\underline{r} = -.027$ ).

It is desirable that these three coefficients be low. The scales should measure mutually exclusive concepts. In the ideal the correlation coefficients should be zero. To the extent that there is a correlation, the scales are measuring over-lapping concepts.

In TA theory when a person confuses one ego state for another, the person is said to possess a pathology known as contamination. Usually, contamination is explained by a sketch, The following sketch gives a visual presentation of the contamination within the questionnaire (see Figure 1).

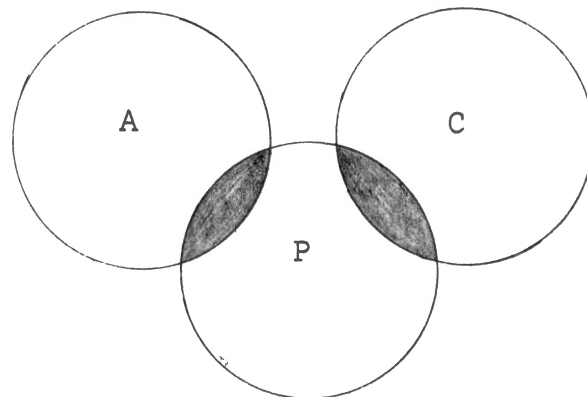


Figure 1. Contamination Within  
the Data

The shaded areas represent areas of confusion in which there is an overlap of concepts. Notice that there is no overlap between the concepts of Adult and Child. They are distinct concepts.

TA theory defines ego constancy as pathological. Ego constancy represents an inability to move easily from one ego state to another. In terms of the questionnaire, ego constancy is suggested by extreme scores. Therefore, TA theory predicted in advance that on all three scales a clinical group would possess greater variability than a non-clinical group. All three predictions were supported statistically at a significant level.

However, the effect associated with the Parent scale was much weaker than the effects on both the Child and Adult scales. This result suggests that the Child scale provides the best discrimination between clinical and non-clinical groups, although the Adult scale is close to the Child scale in discriminating power.

The author originally predicted that clinical subjects would have a greater relative frequency of extreme scores both above and below the norm group mean. This hypothesis was constructed on the assumption that an extremely high score on one or two scales would result in extremely low scores on the remaining scale(s). If an extremely high score on a particular scale suggested that the subject spends an excessive amount of time in that ego state, then it seemed reasonable that little time would be spent in the remaining ego state(s).

However, no clinical subjects scored less than 2s below the mean of the norm group on any scale. Therefore, it does not appear that there is a strong inverse relationship between the scales.



TA theory further indicates the Child ego state in most psychopathology. Therefore, the theory predicts excessive and inappropriate Child function in a clinical group as compared to a non-clinical group. The statistical hypothesis that a clinical group would score higher than a non-clinical group on the Child scale was supported.

On all three scales clinical subjects have a higher relative frequency of extreme scores above the mean of the norm group. It does not appear that this result is merely a function of some response bias, such as a tendency to give socially desirable or undesirable responses. Given a response bias is comparable on all three scales, then clinical subjects' responses should produce relatively uniform distributions on the scales, if only a response bias is operating. However, on the Parent scale, clinical subjects attained a mean which is virtually identical to that of the norm group. Therefore, the response bias explanation of the scores is not confirmed. In addition, the tendency toward scores in excess of two standard deviations above the mean of the norm group is not uniform on all three scales.

This study is hopefully only the beginning of attempts to apply empirical concepts to TA. It is deemed desirable to continue the study of basic concepts in TA before proceeding to more complex concepts. Further research activity might include the following topics:

1. Research to improve the validity and reliability of measurement for the Adult ego state.

2. Administration of the questionnaire to patients before and after therapy to determine the instrument's utility, if any, in measuring therapeutic improvement.
3. This study deals with first order analysis only. TA theory includes second and even third order structural analysis. Empirical study of second order analysis might begin with the development of an instrument to measure Prejudiced Parent versus Nurturing Parent and Natural Child versus Adaptive Child. In the author's opinion third order analysis is obsessive. It is of little value in the practical therapy setting and its study would probably constitute meaningless research.
4. Utilization of this newly-constructed questionnaire as a diagnostic aid in conjunction with other personality inventories, e.g., the MMPI, in order to determine what specific psychopathologies are associated with defective function in specific ego states.

The questionnaire discussed herein does not, in the author's judgment, meet the criteria for either clinical or commercial use. There is no certainty that the test items adequately sample the domain of behaviors associated with Constant Parent, Constant Adult, or Constant Child. The number of items retained in the final questionnaire was relatively large in relation to the number of preliminary items, and the internal validity of some of the retained items needs more research. The reliability coefficients associated with this questionnaire need improvement, particularly the

coefficient of internal consistency associated with the Adult scale.

In short, the questionnaire described herein is a preliminary research instrument rather than a highly valid and reliable clinical instrument. The author strongly recommends that the questionnaire be used for experimental clinical purposes only.

## REFERENCES

- Berne, E. Transactional analysis in psychotherapy. New York: Harper, 1967.
- Berne, E. Games people play: The psychology of human relations. New York: Grove, 1964.
- Berne, E. What do you say after you say hello? New York: Grove, 1972.
- Breen, M. An improvement scale. Transactional Analysis Bulletin, 1970, 9, 1.
- Dunsay, J. M., & Steiner, C. Transactional analysis in groups. In H. Kaplan & B. Sadock (Eds.), Comprehensive group psychotherapy. Baltimore: Williams & Williams, 1971.
- Harris, T. A. I'm ok--you're ok. New York: Harper, 1967.
- Hays, W. L. Statistics. New York: Holt, Rinehart & Winston, 1963.
- James, M., & Jongeward, D. Born to win: Transactional analysis with Gestalt experiments. Phillipines: Addison-Wesley, 1971.
- McCall, R. B. Fundamental statistics for psychology. New York: Harcourt-Brace-Jonanovich, 1975.
- Nunnally, J. C. Psychometric theory. New York: McGraw-Hill, 1967.
- Nunnally, J. C. Introduction to psychological measurement. New York: McGraw-Hill, 1970.
- Schutz, W. C. FIRO-B. Palo Alto: Consulting Psychologist's Press, 1957.
- Steiner, C. Games alcoholics play: The analysis of life scripts. New York: Random, 1971.
- Steiner, C. Scripts people live: Transactional analysis of life scripts. New York: Grove, 1974.

APPENDIX A

THE PRELIMINARY QUESTIONNAIRE

Directions: For each statement below decide which of the following answers best applies to you. Place the number of the answer to the left of the statement. Please be as honest as you can.

1. NEVER    2. RARELY    3. OCCASIONALLY  
4. SOMETIMES    5. OFTEN    6. ALWAYS

- \_\_\_\_\_ 1. I spend money impulsively.  
\_\_\_\_\_ 2. My relationships with others are sterile.  
\_\_\_\_\_ 3. I take responsibility for my behavior.  
\_\_\_\_\_ 4. People are dependent upon me.  
\_\_\_\_\_ 5. I draw conclusions before I get the facts.  
\_\_\_\_\_ 6. I am tolerant of others.  
\_\_\_\_\_ 7. I become weak in the face of problems and decisions.  
\_\_\_\_\_ 8. At social gatherings I talk shop.  
\_\_\_\_\_ 9. I let others make my decisions.  
\_\_\_\_\_ 10. Others say I do their thinking for them.  
\_\_\_\_\_ 11. Others put words in my mouth.  
\_\_\_\_\_ 12. I like to be rewarded.  
\_\_\_\_\_ 13. I am jealous of others.  
\_\_\_\_\_ 14. Others give me the answers.  
\_\_\_\_\_ 15. I look to others for support.  
\_\_\_\_\_ 16. I would like to be a "kept" man or woman.  
\_\_\_\_\_ 17. I say "I can't" when I really mean "I won't" or "I don't want to."  
\_\_\_\_\_ 18. I like to help others.  
\_\_\_\_\_ 19. I believe I am right.  
\_\_\_\_\_ 20. I like to bug the authorities.  
\_\_\_\_\_ 21. I believe others have a lot to learn.

1. NEVER    2. RARELY    3. OCCASIONALLY  
4. SOMETIMES    5. OFTEN    6. ALWAYS

- \_\_\_\_\_ 22. I panic in the face of problems and decisions.  
\_\_\_\_\_ 23. I like to give directions to other people.  
\_\_\_\_\_ 24. I tell people what they should do.  
\_\_\_\_\_ 25. I am a domineering person.  
\_\_\_\_\_ 26. I let others make their own decisions.  
\_\_\_\_\_ 27. Others say I never let them stand on their own  
two feet.  
\_\_\_\_\_ 28. Others say I'm unapproachable.  
\_\_\_\_\_ 29. I like to be the boss.  
\_\_\_\_\_ 30. People say I don't care about them  
\_\_\_\_\_ 31. People say I'm hard to reach.  
\_\_\_\_\_ 32. I am interested in facts.  
\_\_\_\_\_ 33. I am rational in spending money.  
\_\_\_\_\_ 34. Others say I'm unfeeling.  
\_\_\_\_\_ 35. People say I'm cold.  
\_\_\_\_\_ 36. Being pampered annoys me.  
\_\_\_\_\_ 37. I dislike making decisions.  
\_\_\_\_\_ 38. At social gatherings I read magazines.  
\_\_\_\_\_ 39. I am analytical.  
\_\_\_\_\_ 40. Others say I'm a feeling person.  
\_\_\_\_\_ 41. I am rational.  
\_\_\_\_\_ 42. I turn my back on problems and decisions.  
\_\_\_\_\_ 43. I am machine-like.  
\_\_\_\_\_ 44. Others say I'm unsympathetic.  
\_\_\_\_\_ 45. Others come to my rescue.

1. NEVER    2. RARELY    3. OCCASIONALLY  
4. SOMETIMES    5. OFTEN    6. ALWAYS

- \_\_\_\_\_ 46. Others keep me in my place.  
\_\_\_\_\_ 47. I like to tell other people what to do.  
\_\_\_\_\_ 48. I am a submissive person.  
\_\_\_\_\_ 49. I am objective.  
\_\_\_\_\_ 50. People say I'm a warm person.  
\_\_\_\_\_ 51. Others say I think I have all the answers.  
\_\_\_\_\_ 52. New ideas interest me.  
\_\_\_\_\_ 53. Others say I put words in their mouths.  
\_\_\_\_\_ 54. I like people to take care of me.  
\_\_\_\_\_ 55. I wish I could become a child again.  
\_\_\_\_\_ 56. I am accepting of others.  
\_\_\_\_\_ 57. I give others authority over me.  
\_\_\_\_\_ 58. I look to others for approval.  
\_\_\_\_\_ 59. Others say I'm unconcerned about them.  
\_\_\_\_\_ 60. I like others to advise me how to run my life.  
\_\_\_\_\_ 61. I treat other people as if they were children.  
\_\_\_\_\_ 62. I like to be applauded.  
\_\_\_\_\_ 63. Others say I'm a sympathetic person.  
\_\_\_\_\_ 64. I like to be punished.  
\_\_\_\_\_ 65. Others say I "bulldoze" them.  
\_\_\_\_\_ 66. I treat other people as adults.  
\_\_\_\_\_ 67. Others do my thinking for me.  
\_\_\_\_\_ 68. I am a subjective thinker.  
\_\_\_\_\_ 69. I like to be babied.  
\_\_\_\_\_ 70. Others smother me with attention.  
\_\_\_\_\_ 71. I am critical of others.



APPENDIX B

THE FINAL QUESTIONNAIRE

Directions: For each statement below decide which of the following answers best applies to you. Place the number of the answer to the left of the statement. Please be as honest as you can.

1. NEVER    2. RARELY    3. OCCASIONALLY  
4. SOMETIMES    5. OFTEN    6. ALWAYS

- \_\_\_\_\_ 1. My relationships with others are sterile.
- \_\_\_\_\_ 2. I become weak in the face of problems and decisions.
- \_\_\_\_\_ 3. I let others make my decisions.
- \_\_\_\_\_ 4. Others say I do their thinking for them.
- \_\_\_\_\_ 5. Others put words in my mouth.
- \_\_\_\_\_ 6. I like to be rewarded.
- \_\_\_\_\_ 7. I am jealous of others.
- \_\_\_\_\_ 8. Others give me the answers.
- \_\_\_\_\_ 9. I look to others for support.
- \_\_\_\_\_ 10. I say "I can't" when I really mean "I won't" or "I don't want to."
- \_\_\_\_\_ 11. I believe others have a lot to learn.
- \_\_\_\_\_ 12. I panic in the face of problems and decisions.
- \_\_\_\_\_ 13. I like to give directions to other people.
- \_\_\_\_\_ 14. I tell people what they should do.
- \_\_\_\_\_ 15. I am a domineering person.
- \_\_\_\_\_ 17. Others say I never let them stand on their own two feet.
- \_\_\_\_\_ 18. I like to be the boss.
- \_\_\_\_\_ 19. People say I don't care about them.
- \_\_\_\_\_ 20. People say I'm hard to reach.
- \_\_\_\_\_ 21. I am interested in facts.
- \_\_\_\_\_ 22. I am rational in spending money.

1. NEVER    2. RARELY    3. OCCASIONALLY  
4. SOMETIMES    5. OFTEN    6. ALWAYS

- \_\_\_\_\_ 23. Others say I'm unfeeling.  
\_\_\_\_\_ 24. People say I'm cold.  
\_\_\_\_\_ 25. I dislike making decisions.  
\_\_\_\_\_ 26. I am analytical.  
\_\_\_\_\_ 27. Others say I'm a feeling person.  
\_\_\_\_\_ 28. I am rational.  
\_\_\_\_\_ 29. I turn my back on problems and decisions.  
\_\_\_\_\_ 30. I am machine-like.  
\_\_\_\_\_ 31. Others say I'm unsympathetic.  
\_\_\_\_\_ 32. Others keep me in my place.  
\_\_\_\_\_ 33. I like to tell other people what to do.  
\_\_\_\_\_ 34. People say I'm a warm person.  
\_\_\_\_\_ 35. Others say I think I have all the answers.  
\_\_\_\_\_ 36. New ideas interest me.  
\_\_\_\_\_ 37. Others say I put words in their mouths.  
\_\_\_\_\_ 38. I like people to take care of me.  
\_\_\_\_\_ 39. I am accepting of others.  
\_\_\_\_\_ 40. I give others authority over me.  
\_\_\_\_\_ 41. I look to others for approval.  
\_\_\_\_\_ 42. Others say I'm concerned about them.  
\_\_\_\_\_ 43. I treat other people as if they were children.  
\_\_\_\_\_ 44. Others say I'm a sympathetic person.  
\_\_\_\_\_ 45. Others say I "bulldoze" them.  
\_\_\_\_\_ 46. I treat other people as adults.  
\_\_\_\_\_ 47. Others do my thinking for me.  
\_\_\_\_\_ 48. I am critical of others.

APPENDIX C

RAW SCORE CONVERSIONS

These tables may be used to convert subjects' raw scores to standard scores in reference to the norm group of 200 subjects. These T scores have a  $\underline{M}$  = 50 and a standard deviation = 10.

TABLE VIII  
PARENT SCALE

Raw Score	T Score	Raw Score	T Score	Raw Score	T Score
56	88	37	67	19	48
55	87	36	66	18	46
54	86	35	65	17	45
53	85	34	64	16	44
52	84	33	63	15	43
51	82	32	62	14	42
50	81	31	61	13	41
49	80	30	60	12	40
48	79	29	58	11	39
47	78	28	57	10	38
46	77	27	56	9	37
45	76	26	55	8	36
44	75	25	54	7	34
43	74	24	53	6	33
42	73	23	52	5	32
41	72	22	51	4	31
40	70	21	50	3	30
39	69	20	49	2	29
38	68			1	28

$$T = 1.09X + 26.83$$

TABLE IX  
ADULT SCALE

Raw Score	T Score	Raw Score	T Score	Raw Score	T Score
41	97	27	66	12	34
40	95	26	64	11	32
39	92	25	62	10	30
38	90	24	60	9	27
37	88	23	58	8	25
36	86	22	56	7	23
35	84	21	53	6	21
34	81	20	51	5	19
33	79	19	49	4	16
32	77	18	47	3	14
31	75	17	45	2	12
30	73	16	43	1	10
29	71	15	40	0	8
28	69	14	38	-1	6
		13	36		

$T = 2.17X + 7.82$

TABLE X  
CHILD SCALE

Raw Score	T Score	Raw Score	T Score	Raw Score	T Score
84	90	64	68	44	46
83	89	63	67	43	45
82	88	62	66	42	44
81	87	61	65	41	43
80	86	60	64	40	42
79	85	59	63	39	41
78	84	58	62	38	40
77	83	57	61	37	39
76	82	56	60	36	38
75	81	55	59	35	36
74	79	54	57	34	35
73	78	53	56	33	34
72	77	52	55	32	33
71	76	51	54	31	32
70	75	50	53	30	31
69	74	49	52	29	30
68	73	48	51	28	29
67	72	47	50	27	28
66	71	46	49	26	27
65	70	45	48	25	26

$$T = 1.1X - 1.95$$



2  
VITA

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