1983

The Missouri Children's Picture Series: The Development of a Two-Point Configurational Analysis System

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THE MISSOURI CHILDREN'S PICTURE SERIES: THE DEVELOPMENT OF A TWO-POINT CONFIGURATIONAL ANALYSIS SYSTEM

by

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

Master of Arts

October

1983

ACKNOWLEDGMENTS

I wish to thank all the individuals whose help was invaluable in this project. Dr. John Shack, director of my committee, extended a great deal of his time and energy, and his support and encouragement were sincerely appreciated. I wish also to thank Dr. Cliff Kaspar for his input and assistance.

In the actual study, the principals at the two schools involved, Mr. Percival and Mr. Larson, provided the opportunity to conduct this study and contributed of their time and support. I wish to extend my thanks to them and also to all the teachers, parents and children participating in this study for their cooperation.

Finally, I would like to acknowledge the role of my family and friends in helping me complete this project. I wish to especially thank my parents and my dear friends, Gail, John, Kim and Mike for both their direct contributions and also their love and support, which had a tremendous impact in maintaining my motivation and enthusiasm throughout this project.

VITA

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CHAPTER I

INTRODUCTION

Presently, personality assessment with young children depends on extensive, individually administered tests. The instruments available are often time consuming and complicated in administration, scoring and interpretation, and therefore expensive. Many rely heavily on verbal or reading skills, which both restricts the application of many instruments and introduces an additional confounding variable. Objective personality measures for young children are even more difficult to find. Given this scarcity, the Missouri Children's Picture Series (MCPS) (Sines, Pauker & Sines, 1974) appears worthy of further study. This test provides a non-verbal, objective personality inventory which is easily and quickly administered.

The MCPS consists of a set of 238 cards picturing children in various situations or activities. Children are required to sort these cards into those that look like fun to them and those that do not look like fun. The test is then scored on eight scales; conformity, masculinity-femininity, maturity, aggression, inhibition, activity level, sleep disturbance, and somatization.

The research to date with this instrument has focused on validation of individual scales. Mixed results have been found in these studies, some scales emerging with greater validity than others. The instrument's uniqueness and economy are strong features supporting further investigation on the usefulness and validity of this test.

It appears possible that the limited success of prior research with this test may be due to method rather than content. In the complex realm of personality it may be futile to attempt to understand the individual through a collection of single scales without understanding the relationship among those scales. A more sophisticated analysis may be necessary to capture a comprehensive picture of an individual.

In the history of earlier work with perhaps the most widely used objective personality inventory for adults, the Minnesota Multiphasic Personality Inventory (MMPI), one can clearly follow the progression from attempting to validate single scales to utilizing more information on the profile through configurational analysis. This approach acknowledges the complexity and interrelation of personality factors and has led to the extensive use of the MMPI as a personality inventory giving a descriptive overview of the individual rather than solely a screening tool for identifying specific pathological groups.

The research on the MCPS remains at an early stage, evaluating the utility of the instrument while selecting only portions of the data to analyze and interpret. The present study is an attempt to begin moving in the direction of broader personality description with the MCPS, using more of the profile rather than any single scale standing alone. This first step

consists of taking a configurational approach to analyzing MCPS profiles, specifically here, the two highest scale scores together or two-point code.

This approach explores the possibility of developing a means of analyzing MCPS profile data that encompasses a wide range of personality dimensions and increases the application to different populations. To accomplish this, an adjective checklist, developed from Cattell's personality traits, will be used to identify characteristics of individuals in a particular code group. Such a procedure will provide descriptive information lending meaning to the distinct configurational patterns. Development of this type of interpretive system for the MCPS addresses the need for such an instrument with children and may as well increase the effectiveness of the MCPS for its original purpose as a screening tool.

CHAPTER II

REVIEW OF RELATED LITERATURE

Rationale for Configurational Analysis

The history of configurational approaches to profile data and the corresponding rationale can be understood most readily in the early development of the MMPI. Initial investigators found mixed results in their studies to validate individual scales on the MMPI. After a decade of clinical use and research, the MMPI was not successful for the purpose it was designed (Graham, 1980). The original purpose of the MMPI to identify some unique clinical dimensions and screen individuals who scored in the pathological range on these scales, did not prove to be the most fruitful means of utilizing the data. Although patients in a particular clinical group often scored high on the corresponding scale, they also scored high on other scales as well. Normals also sometimes obtained high scores on one or more of the clinical scales. These findings demonstrated that the individual scales were not pure measures of distinct psychiatric syndromes. Rather, it was apparent that many of the clinical scales are highly intercorrelated and is unlikely that only one scale would be elevated for a certain individual.

Current use of the MMPI is quite different from the original method developed. The new, most valuable approach to MMPI analysis attends to the

entire profile. Research and clinical use of the MMPI has moved in the direction of analyzing patterns and all the data on the profile, that is, moving to treating the data in a configurational rather than an atomistic way. In this approach, each scale is treated as an unknown, rather than assuming each represents an established syndrome with specific underlying constructs. Through empirical research and clinical experience, a body of data is accumulated regarding the behaviors and characteristics of individuals who score similarly. Behavioral-empirical correlates of particular profile patterns can then be identified.

Numerous advantages result from this new perspective. A configurational approach provides a more efficient form of screening since it incorporates more data on which to base discriminations. This type of analysis also allows clinical interpretations of the patterns emerging rather than a solely quantitative analysis. Therefore, configurational analysis provides a bridge between actuarial, objective data and the clinical interpretation and practical use of such results. This approach also serves as a continuous validating device. Since no single scale holds up well alone, they are each continuously tested against other scales, the entire profile, and in relation to each other. Finally, a configurational approach expands the populations the test is appropriate for and the type of data that can be obtained. Within normal populations, where single pathological aspects may not be the information being sought, one can empirically gather a great deal of data on personality styles and descriptive information about characteristic patterns that emerge.

As summarized by Hathaway and Meehl (1956, in Welsch and Dahlstrom)

the move to configurational analysis through the use of code types emphasizes three things: that the shape of the total profile is more significant than single elevated scales, that it is more productive to begin with the test and examine subjects scoring similarly rather than guess at diagnoses and symptoms expecting a test to then validate these, and lastly, that interest has increased in understanding normal traits and characteristics as well as traditional, strictly psychiatric variables.

Research on configurational analysis has been based on few general approaches and methods. Meehl and Dahlstrom (1960) stressed configurational approaches to MMPI interpretation, supporting Hathaway and McKinley's early conclusion that an interpretation considering the relationship between scales would be much richer diagnostically than utilizing only single scales. Beginning to move in this direction, some of the earliest MMPI researchers found that grouping profiles according to the two highest clinical scales was a fruitful approach and began identifying reliable behaviors and characteristics unique to each such profile type (Black, 1953; Guthrie, 1952; Meehl, 1951). The study by Black (1953) is also particularly interesting in that this configurational approach using two-point whole range of personality adjustment including a normal population. These results established the MMPI's usefulness for identifying individual personality styles and characteristics as evidenced by any deviations from the mean, rather than needing to use only extreme scores for the instrument to have meaning.

More complex rules for classifying profiles were then developed by several researchers (Gilberstadt & Duker, 1965; Marks & Seeman, 1963) which

utilized more scales and delineated criteria for classifying similar groups of profiles. However, several difficulties with this approach emerged. Evidence accumulated indicating that few profiles could be classified according to the complex rules and furthermore the more complex classification did not add sufficiently to the results to warrant the added difficulty and complexity.

The bulk of this work has been descriptive in nature and utilized similar means to identify the extra-test correlates for each group. These highly empirical studies have often relied on clinical records. From these records, diagnosis, symptoms, history, and narrative information have commonly been used (Hathaway & Meehl, 1956; G. M. Guthrie, 1952; Meehl & Dahlstrom, 1960; Marks & Seeman, 1963). Studies involving nonhospitalized populations and normals have also relied on descriptive methods for classification, such as adjective checklists (Black, 1953) and expert ratings such as from interviews (Drake, 1954) and narratives. In accumulating such data describing individuals in particular code types, it has been necessary to draw from these non-standardized, more exploratory methods and verify results through continued study. No single comprehensive approach or research methodology most well suited to classify the broad realm of personality characteristics being surveyed has emerged.

The current trend in MMPI interpretation seems to again have moved back towards the simpler, two-scale approach (Gynther, Altman & Sletten, 1973; Lewandowski & Graham, 1972). An immense quantity of research on the MMPI has demonstrated that reliable personality correlates can be obtained through this two-scale configurational analysis system. Ultimately, this

approach does not rely on exact meanings for the individual scales, but rather on empirically established data identifying what the characteristic patterns represent (Graham, 1980). The impressive body of empirical data that has accumulated serves to strengthen the MMPI's place as the most widely used instrument in the realm of adult personality assessment. Unfortunately, no such wealth of data exists for assessing children and no comparable instrument has been developed. A number of unique problems exist in assessment with children that are not encountered, or at least are not as significant, with adults. In addition to the general considerations regarding the ease of test administration and scoring, the amount of time required, and the cost, several other factors are extremely important in assessing young children. The limited verbal and reading skills of younger children is a crucial element in the type of instrument that can be effectively used. This poses a severe restriction to the development of simple, self-report type inventories for children. Children's shorter attention span requires that a test designed for assessing young children place much greater emphasis on the time and concentration elements. It is essential for the test to be relatively short and capture the child's interest in order to obtain reliable results.

The MCPS format ingeneously addresses these critical limitations in assessing young children. The test's non-verbal, pictorial format provides a novel and promising approach. This design eliminates the verbal and language restrictions of other instruments, making it appropriate for a younger range of children. The presentation of drawings on cards that the child sorts is both attractive, capturing the child's attention, and involves

a pleasant and easily understood task that the child can respond to. These basic characteristics of the MCPS lend support to continued study of the personality information emerging through this method of assessment.

The Missouri Children's Picture Series

Before moving to a new use or analysis of an instrument, it is necessary to review the existing work with the instrument. In the case of MCPS, this previous research has been limited.

A review of the development of the MCPS will establish the theoretical and empirical foundations for this instrument. The authors of the MCPS began by defining the relevant dimensions of children's behavior. an underlying premise in the instrument's development, simply identified by the authors, is the basic assumption that individual differences observed in the stated interests of children are related to important variables in the description and prediction of behavior (Sines, Pauker, & Sines, 1974). From their review of the literature, and their own construction of a checklist, the Missouri Children's Behavior Checklist (Sines, Pauker, Sines & Owens, 1969), the authors identified six frequently described dimensions of children's behavior. These six scales have been labeled: aggression, inhibition, activity level, sleep disturbance, somatization, and sociability. These behavioral checklist dimensions were found to be relatively independent, internally consistent and meaningfully discriminating between nonpatient boys and boys seen at a child psychiatry clinic. The first five of these checklist scales were used in the construction of the MCPS. In addition to these five clinically relevant dimensions the authors included three more

scales they believed to be significant, reflecting individual differences on personality relevant variables. These three scales, labeled conformity, masculinity-femininity, and maturity, were easily identified aspects of the test responses or of the children themselves (sex and age) and were established on a validation group of 3,877 school children from ages 5 to 16.

The actual picture content of the cards was derived from lists of activities that fourth and sixth grade elementary school children indicated they most liked to do and least liked having to do. An artist then interpreted these various activities in the form of line drawings with the instructions of generalizing the situations by minimizing facial details, accenting the focal child with heavier lines, and keeping the child as "sexless" or neutral as possible.

The authors' standardization group consisted of 3,877 children from kindergarten through 11th grade. The only demographic information available is that approximately five percent of the sample were Negro children.

The level of statistical significance that was used in selecting items for the scales varies from .05 to .15. The eight scales are composed of different number of individual items, varying from 24 to 33 in total. Interscale correlations were found to range from .04 to .65, reflecting a fair amount of independence between scales.

The split-half and test-retest reliabilities vary a great deal across the eight scales. Test-retest reliability data reported in the manual for a sample of 171 norm group and 64 clinic children showed a small clinical group of boys with very low coefficients, from .01 to .37. For the

nonclinical normative subjects and clinic girls, they were much higher, ranging from .45 to .77 and were statistically significant. The reliability coefficients are consistently higher for girls than for boys. In the larger normative group of 3,877 children used by the authors, split-half reliability coefficients ranged widely from .20 to .91, reflecting substantial differences in stability for the eight scales.

The authors also assessed the relationship between MCPS scale T scores and WISC IQ scores. The correlation were very low and suggest the MCPS scores are relatively independent of intelligence.

Over the last 10 years since the instrument's development, studies utilizing the MCPS fall into two main categories. The first group of studies focus on validating individual scales of the MCPS, while the second group has been more concerned with validating the instrument with various distinct populations of children.

Individual scales of the MCPS have been found to be most effective in screening for pathology with clinical populations. A study by Willis & Gordon (1974) with emotionally disturbed children at a therapeutic camp found some significant results for several scales. In this study, MCPS scores were correlated with counselor ratings and with parental attidudes. The scales were classed as measures of adjustment or maladjustment, with maturity emerging as a measure of adjustment and activity level, aggression, somatization and conformity as measures of maladjustment. The scales were also found to be intercorrelated with each other. Studying institutionalized aggressive children, Defilippis (1979) found that the MCPS discriminated these children from a group of normal children. The

aggression and maturity scales showed the largest and most consistent differences, with the institutionalized children, as a group, scoring higher on aggression and lower on maturity ($p<.01$). Also IQ was found to be unrelated to MCPS scores among the normal middle class children yet correlated significantly with MCPS scores among the disturbed, lower-class children. Baker, Ullman and Stein (1978) report good reliability on the MCPS for boys in residential treatment. They discovered a split-deck procedure yielded even higher reliability, offsetting these boys' distractibility and short attention span problems through the use of a two session administration.

Several studies have validated this instrument with a hearing-impaired population (Vegeley, 1971; Logue, Penrod & Zackheim, 1976). Vegeley (1971) tested 160 severely hearing impaired children between the ages of 10 and 16, finding that the girls did not differ significantly from normally hearing girls and boys differed only slightly on a few scales. Vegeley concluded that the MCPS is a useful test for hearing-impaired children and that this population of children did not interpret the pictured situations consistently differently than the normal hearing children. The author does voice caution in that the reliability and validity of the MCPS is still uncertain but these issues are apparently no different for a hearing-impaired population than a normal one. Logue, Penrod & Zackheim (1976) also attempted to validate the MCPS with a deaf population consisting of 118 residential students between the ages of 9 and 14 years. They found the norms to be consistent with earlier research and personality characteristics that have been identified with deaf children. Generally higher scores were found

for the deaf group than the standardization population, especially for deaf boys. Aggression, activity level and maturity scores tended to differ from the norms with a normal hearing population, although the authors do not report these differences to be at a significant level. They conclude that the MCPS appears to be a useful instrument for personality assessment with deaf children of normal intelligence, 9 years of age or older.

Another special population was studied with the MCPS by Tavormina, Kastner, Slater & Watt (1976). The researchers used the MCPS and several other instruments to assess psychopathology among a group of chronically ill children. This group was composed of diabetic, asthmatic, cystic fibrotic and hearing-impaired children. Although the study focused on the personality and adjustment of these children rather than the instruments utilized, it is applicable to the discussion of the MCPS in that the results with this instrument were consistent with those from several other standardized personality instruments.

A number of studies have had less convincing results in attempting to validate the MCPS. Dollinger, Schum and Nichols (1981) report two small studies intended to validate the sleep disturbance scale of the MCPS. The first of these studied 37 children at a summer residential program who were diagnosed as having speech, language, hearing or reading problems. They were divided into three groups; restless sleepers (n=9), frequent nocturnal enuretics (n=4) and a cohort group of children with no sleep problems. Analysis of the MCPS scores of these children did not show significant results in the sleep disturbance scales utility to predict the children who would have these sleep problems. The second study reported by the authors used 63

children referred for academic and social emotional problems and correlated MCPS sleep disturbance scale scores, parental questionnaires and problem checklists. Again the authors report poor ability of the MCPS sleep disturbances scale to predict sleep problems.

Several studies with the MCPS have been conducted with a normal population of school children. The first of these, Stoops and Graham (1976), focused on the aggression scale only, with a group of 40 fourth grade boys. Results on the MCPS aggression scale were correlated with four measures, consisting of teachers' ratings, verbal sentence completion, a game and several TAT cards. The authors did not find significant correlations between these different measures. Significant correlation was found between the aggression and activity level scales on the MCPS and the authors suggest that this may reflect that high scorers on the activity scale tend to be more immature, therefore, less likely to rely on verbal means of expressing aggression. They also conclude that perhaps aggressive behavior is largely determined by the situational variables rather than represent a general, consistent trait. The authors go on to consider that children may express anger through different modalities and the measures selected here may represent different expressive modes.

Finally, in an archival study undertaken by Register & L'Abate (1972) reviewing tests on 350 school children, some support is cited for the MCPS as a whole to discriminate among groups with varying degrees of personality disturbances. The aggression, inhibition and hyperactivity scales were found to be the best discriminators. Also the results with the MCPS were found to relate well with other standard psychological tests, which often

require considerably more time and sophistication to administer, score and interpret.

As evidenced above, the available research on the MCPS is far from extensive and often very restricted in focus. Also, the studies tended to have severe methodological problems, such as ill-defined categories or groups, insignificantly small samples, unreliable measures and very little statistical evidence or support for findings. In general most of the studies were not very sophisticated or conclusive. The state of this research leaves serious gaps in our knowledge of the instrument and finally leads to unanswered questions regarding the essential elements that this test is measuring. This uncertainty should engender caution and encourage moving to more basic exploration of the dimensions being measured rather than treating these MCPS scales as established, clearly defined variables for which we know the underlying personality correlates.

This present study is an attempt to return to the exploratory, descriptive analysis of the personality dimensions tapped by the MCPS. Although this entails a return from supposed methodological sophistication to more basic empirical study of constructs and accumulation of data, it is an essential move to enhance our understanding of the instrument itself before reliably applying it to study complex problems of human behavior and personality. To attain this fundamental understanding of the test, the actual MCPS scales can be taken as unknown dimensions and their extra-test correlates then be empirically identified. Also, a configurational approach which is premised on personality variables being intercorrelated, existing together in the individual and impacting on each other is

particularly suitable for investigating the multidimensional data that can be obtained with this instrument.

Structure of Personality

Any attempt to assess personality or identify such aspects of the individual must rest on an underlying philosophical and theoretical view of the structure of personality. In describing an individual or even considering the characteristics comprising personality one needs to determine the dimensions that are significant and represent a coherent, comprehensive overview of the person. Cattell developed such a model describing the structure of personality. Cattell's has been labelled a "trait theory" in that it identifies the underlying characteristics that are essential in forming a comprehensive map of the personality domain, or what he calls the sphere of personality. Cattell's model emerged from a very empirical, quantitative approach, utilizing factor analysis as the core methodology for selecting the essential variables. Without detailing Cattell's work, it is sufficient here to summarize that the specific traits identified by Cattell formed clusters that fit together in describing individuals and 12 major personality factors emerged.

Although not overtly evident, Cattell's basic premises underlie a great deal of the later work on personality structure and assessment. Perhaps the complexity of Cattell's methodology and his quantitative emphasis have not made the theory very popular or attractive to unsophisticated researchers. However, Cattell's basic belief that there is a stable identifiable underlying structure to personality which emerges when

one assesses numerous characteristics of the individual, has permeated the work in personality assessment. The instrument used or specific variables measured become then less important because one is taping the same basic structure.

The characteristics for each code group in this study are derived from adjectives selected to describe the subjects in that group. An adjective checklist is most appropriate for this purpose and has been commonly used in the past in research with normal subjects where other types of clinical data are not available or applicable. Early research on the MMPI such as the studies by Hathaway & Meehl, (1956), and by Black (1953) relied on adjective checklists based on Cattell's dimensions of the sphere of personality. The present study, in attempting to identify personality correlates of certain profile types on the MCPS, again relies on Cattell's fundamental premises and utilizes the same traits and factors to describe underlying personality dimensions.

Hypotheses and Assumptions

An underlying assumption of this exploration consists of the belief that specific two-point codes will identify groups of individuals with similar characteristics. This attempt, therefore, to describe these characteristics is a beginning towards attaching meaning to significant two-point codes.

In utilizing the MCPS with normal subjects, it is anticipated that some scales will emerge as more significant and that not all possible two scale combinations will occur commonly enough to be considered. Rather, it

is expected that many of these possible code types will drop out and only those found to frequently describe normal subjects will merit analysis.

The eight MCPS scales were developed in two different formats, with the first three scales, conformity, masculinity-femininity and maturity compiled from responses of a normal population of children and the last five scales from a clinical population. It, therefore, may be anticipated that two-point code types with two scales having T scores greater than 60 will emerge more among the clinical scales. In other words, more elevated scores would be expected in the last five scales, which appear to be more measures of pathology rather than the first three scales which seem to represent indices of normality.

CHAPTER III

METHOD

Subjects

The subjects were 311 normal grade school children in a mid-western state. These children ranged in ages from six to twelve years old and included approximately half males and half females. The subjects were about evenly divided among those attending an urban, private Catholic school and a suburban public school. The population from the urban school was approximately 85% Hispanic, lower middle class. Those from the suburban school were predominantly white, middle class subjects, with a small percentage (less than 5%) of middle eastern immigrants. The subject sample is summarized in Table 1.

Materials

Missouri Children's Picture Series (Sines, Pauker & Sines, 1974). This test consists of 238 line drawings on individual 3"x5" cards. The subject is instructed to sort the cards into two piles, those that "look like fun" and those that "do not look like fun". The cards are then coded on scoring sheets, which are then scored with transparent stencils and the subject obtains a raw score on eight scales; conformity, masculinity-femininity, maturity, aggression, inhibition, activity level, sleep

TABLE 1

Population Characteristics

		Age								
		6	7	8	9	10	11	12		
SCHOOL 1	Males	10	17	17	10	9	8	2	73	154
	Females	6	15	22	10	17	9	2	81	
SCHOOL 2	Males	11	13	14	12	23	10	6	89	157
	Females	5	15	10	13	9	11	5	68	
		32	60	63	45	58	38	15		311

Totals-

Males 162
Females 149

School 1 - Public, suburban school

School 2 - Private, urban school

disturbance, and somatization. The total number of items scored on each scale varies between 24 and 33. The items on each scale may be scored either for being selected as fun or not being chosen. (See Appendix A for sample items for each scale).

Tables are provided in the test manual to convert the raw scores to T-scores. These tables are normed according to age and sex.

Adjective Checklist (Black, 1956). The adjective checklist used consists of 141 descriptive words that pertain to personality characteristics and temperament. This list was used originally by Black in research with the MMPI to empirically establish descriptions of the various code types. Black utilized the original checklist devised by Hathaway and Meehl (1951), revising some of the words that appeared outmoded (See Appendix B for Adjective checklist and revisions). Some of the characteristics are presented in a bipolar fashion, with opposite traits listed, while others tend to be more global or unilateral, and are represented by a single word.

Most of the adjectives on this list are drawn from Cattell's descriptive terms encompassing what he terms the sphere of personality. These adjectives were then empirically clustered by Cattell into twelve major personality factors. These factors are bipolar in nature and an individual can score towards a particular pole on the continuum for each factor.

Each subject can obtain a score on each of the twelve major factors by totalling the adjectives checked that correspond to clusters describing the factor (See Appendix C for adjective clusters for each factor).

Procedure

Principals at several schools were contacted and informed of the proposed study. Meetings were then scheduled with those principals agreeing to participate in this project. It was established that all the grades one through sixth would be tested at each school provided the parents did not object. The principals at the two participating schools reviewed all procedures and signed consent forms agreeing to allow the experimenter to conduct this research at their school. A schedule was developed for the testing and the principals presented this to the teachers and requested their cooperation. At least one week prior to beginning any testing, a letter was sent home with each child, informing the parents about the proposed research and offering them the opportunity to seek more information or request that their child not participate if they had any objections (See Appendix D for copy of letter sent to parents). This letter was written in both English and Spanish for those in the urban, Catholic school to accommodate the predominantly Hispanic population.

Children were tested in small groups with their classmates. The time of the testing was arranged with the teachers so as not to interfere with the academic schedule. The small groups varied in size from 8 to 25 depending on the size of the classes and age of the children. No other selections or discriminations were made in order to minimize any implications of subject selection. Two parents objected to their child's participation in the study and those two children left the room and went to help their teacher with something else while their class was tested.

Each child was given a set of cards and instructed to sort them into

two piles, one of those pictures that "looked like fun" and one of those that "did not look like fun" to him or her. When the child completed the task the experimenter verified which pile the child identified as being "not fun" and collected the cards. The entire test requires approximately 15 to 20 minutes to complete, the younger children being slightly slower than the older ones. The first through sixth grade classes were all tested at the urban school. In the suburban school the classes were smaller in size and there were 2 classes at each grade level. Both classes were tested for the first through fifth grade level. The two sixth grade classes were not tested due to a schedule conflict and it was decided not to interfere with a track meet and spelling bee in which most of the sixth graders were participating.

The card piles for each subject were coded on scoring sheets and later scored with stencils for each of the eight scales. The raw scores were then converted to T-scores using standard tables normed for sex and age.

The profiles were grouped according to the two highest scaled scores, two-point code. Profiles having two scales with T scores over 60, that is, two scales with scores more than one standard deviation above the mean, were then selected.

The experimenter returned to the schools, now meeting only with the teachers and provided them with adjective chekclists for a sample of children in each teacher's class. This sample consisted of those subjects selected on the basis of having at least 2 scaled scores over 60.

The teachers were asked to fill out the checklists and return them to the experimenter. It was explained that this was a sample of subjects representing different personality types and that this did not imply any

positive or negative qualities. Each teacher completed between 5 and 10 adjective checklists, depending on the profiles occurring in their particular class.

The adjective checklists were then analyzed. The first level of analysis consisted of frequency counts for adjectives used to describe subjects within and between specific code groups and the total numbers of adjectives used to describe the subjects. The second level of analysis involved scoring each adjective checklist on the basis of Cattell's twelve factors (See Appendix C for the factors and the adjectives in each category). This scoring was done by counting the adjectives used which fell on the positive and negative side of each factor polarity, for example on the cyclothymia side versus the schizothymia side for the first factor. These numbers were subtracted and the result divided by the total number of adjectives used on that individual checklist (i.e., C-S/N). This resulted in a score reflecting which side of the factor polarity characterized the subject and the percentage of total descriptive adjectives used which fell in this category. For example, if a subject's checklist had 8 adjectives from the cyclothymia side of factor 1 used and 3 adjectives from the schizothymia side checked off, and a total number of 25 adjectives used on his checklist (8-3/25 = .20), he would score 20% toward the cyclothymic side on the first factor. This was done for each of Cattell's twelve factors, therefore, each subject obtained twelve scores, one on each of these twelve factors.

These factor scores were then analyzed. A discriminate analysis, from the Statistical Package for the Social Sciences (SPSS) was performed for the seven resulting code groups.

CHAPTER IV

RESULTS

A total of 311 children were administered the MCPS. When all of these profiles were scored, 106 were found to have at least two scales with T scores greater than sixty. These 106 were the sample selected for further study and adjective checklists obtained from the teachers for these subjects. Sixteen classrooms with sixteen different teachers were represented in this second stage of the study. Each individual teacher completed between 5 and 10 checklists, depending on the number of children in his or her class who fell into this second group of 106 subjects.

Not all possible two scale combinations emerged in this sample group of profiles. Of 28 possible two scale code types (order of the scales not considered), 17 types were represented (See Table 2). Of these, only 7 code type groups had enough subjects in them to allow further analysis. This final sample consisted of 84 subjects in total, divided among the seven two-point code types. These results also reflected significantly more elevated scores among the last five scales than the first three scales. Of the final sample of seven code groups, all of the code types were combinations including scales 4 through 8 of the MCPS. These seven groups which were further analyzed were the code types 3-5 (maturity and inhibition), 3-7 (maturity and

TABLE 2

MCPS Two-point Code Types

Code Type	No. of Subjects	Profiles with 2 scales of T>60
1 - 2	7	
1 - 3	7	
1 - 4	11	1
1 - 5	2	
1 - 6	9	
1 - 7	5	
1 - 8	10	1
2 - 3	12	4
2 - 4	13	2
2 - 5	1	
2 - 6	5	
2 - 7	12	4
2 - 8	3	
3 - 4	4	1
3 - 5	18	7 *
3 - 6	1	
3 - 7	33	14 *
3 - 8	0	
4 - 5	3	1
4 - 6	26	13 *
4 - 7	6	2
4 - 8	10	4
5 - 6	27	15 *
5 - 7	18	8 *
5 - 8	20	8 *
6 - 7	5	2
6 - 8	39	19 *
7 - 8	4	
Totals	311	106

sleep disturbance), 4-6 (aggression and activity level), 5-6 (inhibition and activity level), 5-7 (inhibition and sleep disturbance), 5-8 (inhibition and somatization), and 6-8 (activity level and somatization). For these groups, the adjective checklists which were completed by the teachers provided descriptive characteristics of each code type. On the adjective checklist, which has a total of 150 adjectives listed, the teachers checked off an average of 17.5 adjectives per subject, with a range of 2 to 51 adjectives selected to describe an individual subject. Table 3 summarizes these results, including the distributions and averages for each code type. Also some words on the checklist were used frequently by the teachers, such as honest (used in 47 out of a total of 84 checklists), friendly (49 out of 84), talkative and good-tempered (each used in 32 of 84). Others were not used at all or very infrequently in the total sample of 84 checklists. The overall frequency for each adjective is summarized in Table 4.

In order to determine if the adjectives used frequently or seldom were likely to have a positive or negative connotation, a reference group of 55 college students from psychology classes was surveyed by having them rate the words on the checklist as positive or negative in meaning (See Appendix E for these results).

From a comparison of the teachers' result with this reference group, it was found that theachers tended to use words with a negative connotation much less frequently than words clearly positive in meaning. Also, a number of the words were unknown to the college students and similarly may have been unknown to the teachers and, therefore, avoided.

In analyzing the checklists, some words emerged which described most

TABLE 3

Number of Adjectives Used by Teachers for Each Code Type

Code Type	No. of adjectives for indiv. subjects	Total	n	Group Ave.
3 - 5	5, 23, 10, 40, 51, 14, 18	161	7	23.0
3 - 7	8, 14, 18, 21, 24, 40, 14, 34, 16, 11, 32, 25, 15, 4	276	14	19.7
4 - 6	11, 20, 9, 28, 10, 11, 18, 6, 19, 35, 31, 11, 7	216	13	16.6
5 - 6	3, 3, 2, 3, 3, 46, 28, 15, 10, 26, 11, 25, 8, 16, 21	220	15	14.7
5 - 7	10, 17, 26, 18, 6, 7, 3, 24	111	8	13.9
5 - 8	22, 24, 26, 25, 14, 22, 27, 34	194	8	24.3
6 - 8	3, 6, 6, 27, 7, 9, 50, 34, 6 7, 35, 8, 6, 9, 19, 13, 14, 6, 25	290	19	15.3
	Overall average		84	17.48

TABLE 4

Overall Teacher Usage of Adjectives on the Checklist

Number of times used from a total of 84 adjective checklists.

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

47	honest	14	generous	0	eccentric	4	gloomy
15	dishonest	3	tight-fisted	1	flattering	16	laughterful
4	self-denying	25	easygoing	8	self-centered	4	frivolous
7	selfish	18	mature	21	lively	12	serious
16	loyal	9	infantile	10	aggressive	4	high-strung
4	fickle	15	clear-thinking	0	inflexible	16	relaxed
31	fair-minded	2	incoherent	14	adaptable	6	impulsive
4	partial	20	independent	8	hostile	10	deliberate
29	reliable	11	dependent	49	friendly	12	emotional
9	undependable	8	wise	6	jealous	0	unemotional
14	persevering	7	foolish	1	ruthless	5	irritable
10	quitting	4	polished	20	kind	32	good-tempered
23	orderly	8	rough	3	shrewd	6	unself-controlled
14	disorderly	14	interests wide	5	naive	15	self-controlled
22	conscientious	8	interests narrow	7	clever	11	contented
20	practical			1	conceited	15	grateful
3	unrealistic	0	self-effacing	4	self-dissatisfied	1	thankless
9	worrying	11	shows off	15	self-confident	9	softhearted
10	decisive	7	argumentative	0	self-distrusting	2	hardhearted
7	indecisive	32	talkative	17	energetic	2	cynical
9	enterprising	23	quiet	6	apathetic	1	idealistic
2	shiftless	9	boastful	12	enthusiastic	23	popular
2	many physical complaints	16	modest	4	versatile	9	unpopular
		4	arrogant	6	submissive	4	suspicious
1	neurotic	10	humble	14	sensitive	17	trustful
4	depressed	0	pugnacious	6	poised	6	impatient
32	cheerful	15	peaceable	2	awkward	20	curious
14	moody	13	thoughtful (a thinker)	0	sophisticated	5	inarticulate
19	balanced			13	shy	0	likes drinking
6	absent-minded	12	reasonable	9	adventurous	2	religious
21	alert	2	affected	11	timid	1	worldly
3	seclusive	13	natural	1	aloof	7	rebellious
29	sociable (mixes well)	6	logical	10	affectionate	3	conventional
		6	aesthetic interests	7	sentimental	7	individualistic
4	frank	2	courageous	5	hardheaded	9	dreamy
4	secretive	3	cowardly	41	cooperative	8	easily bored

of the subjects in a particular group, in other words, identified homogeneous characteristics within the group. Appendix F includes the frequency counts for adjectives used to describe each specific code group.

Within the specific code groups, the code type 5-6 (Group 4, inhibition and activity level) stood out as the least evenly described, with a great number of different adjectives used and little homogeneity in that not many words consistently described a majority of the group. Within this code type, aside from friendly (describing 9 of the 15 subjects in this group), honest (7 of 15), and fair minded (6 of 15), no other adjectives were applied to a significant portion of this group. There were, however, more opposite descriptions than in any other group, such as talkative (4 of 15) and quiet (5 of 15), orderly (5 of 15) and disorderly (3 of 15), sociable (4 of 15) and shy (3 of 15).

The first two code types, 3-5 (maturity and inhibition) and 3-7 (maturity and sleep disturbance) (Groups 1 and 2) were described fairly consistently and positively. With most of the seven groups, some positive, often used adjectives such as honest, friendly, or co-operative frequently emerged as characteristics of the group. Some of these words described most of the subjects in most of the groups.

Some words used less frequently by teachers overall and yet characterizing one group more than others were then looked at. These adjectives distinguished characteristics reflecting differences between the code type groups rather than homogeneity within the group. For example, impulsive, hardheaded and boastful were words not frequently used by the teachers, only being used 6, 5 and 9 times respectively for the whole sample of

84 subjects (See Table 4). However, at least half the time each of these words was used, it was applied to describe subjects in the code type 4-6 (Group 3, aggression and activity level). On Table 5, then, are summarized two sets of results, adjectives describing within group characteristics, and also those adjectives whose usage differs between the groups or serves to distinguish code types from each other and from the sample of 84 subjects as a whole.

The discriminate analysis was performed on the data obtained through the outlined procedures to assign scores on Cattell's factors for each of the 84 adjective checklists in the final sample (See Appendix C). The groups were first rank ordered in terms of their mean group scores on each of the twelve factors. Table 6 illustrates all the distributions of values for the seven code groups on each of Cattell's twelve factors. Since each factor represents a bipolar dimension of personality, it is important to note that the distribution of values is different for each factor. This means that across any one factor the values for the seven groups may all fall on the positive side of the dimension, such as cyclothymia (Factor 1) and different groups may have higher and lower scores but vary only within one end of the bipolar factor being assessed. For other factors, the distribution of group values may encompass both ends of the dimension and range into both the positive and negative poles, such as on Factor 4. For each of the twelve factors, the seven code type groups vary not only on where the distribution falls along that bipolar personality dimension, but also on the range of values between the groups. For example, from Table 6 it can be seen that

TABLE 5

Adjectives Differentiating Within or Between Group Characteristics

Group	Code Type	n	Within group similarities	Between grp. diff.
1	3 - 5	7	honest 5/7 good-tempered 5/7	seclusive 2/3
2	3 - 7	14	honest 12/14 friendly 12/14 co-operative 9/14 cheerful 9/14 sociable 8/14 reliable 8/14	self-confident 6/15 enthusiastic 5/12
3	4 - 6	13	co-operative 9/13 talkative 8/13 lively 7/13 friendly 7/13	impulsive 3/6 hardheaded 3/5 boastful 4/9 self-dissatisfied 3/4 emotional 5/12
4	5 - 6	15	friendly 9/15 honest 7/15 fair minded 6/15	indecisive 3/7 serious 4/12 easily bored 3/8 inarticulate 2/5
5	5 - 7	8	honest 5/8 easygoing 4/8	absent-minded 2/6 submissive 2/6
6	5 - 8	8	co-operative 6/8 friendly 5/8 honest 5/8 cheerful 5/8	sentimental 3/7 soft-hearted 3/9
7	6 - 8	19	talkative 9/19 friendly 9/19 honest 8/19 cheerful 8/19 sociable 7/19 timid 6/19 curious 6/19	inarticulate 3/5 dreamy 4/9 moody 5/14 timid 6/11 unrealistic 2/3 hostile 3/8

TABLE 6

Code Group Means on Cattell's Twelve Factors

KEY

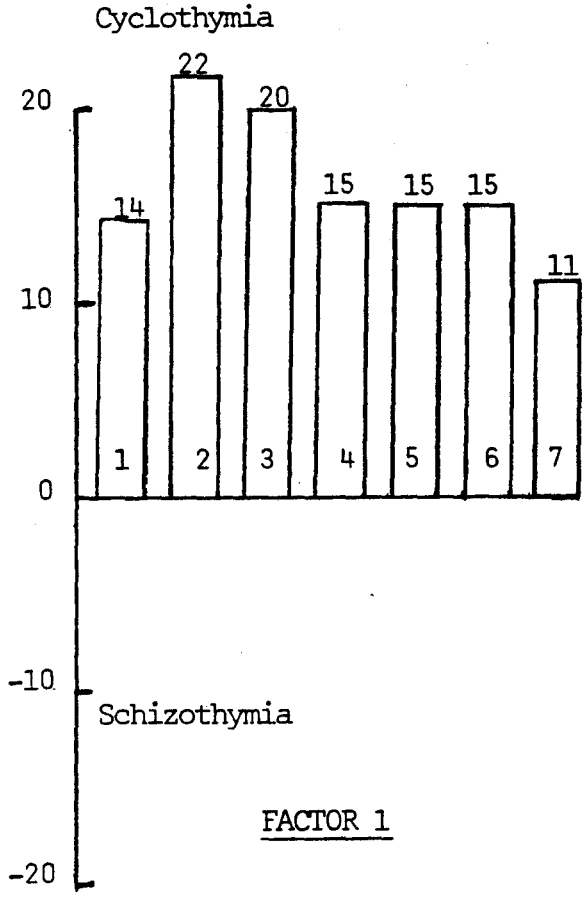
Code Group Types 1 - 7	Ordered from left to right
Group Means	Percentage of adjectives scored in the particular direction noted.

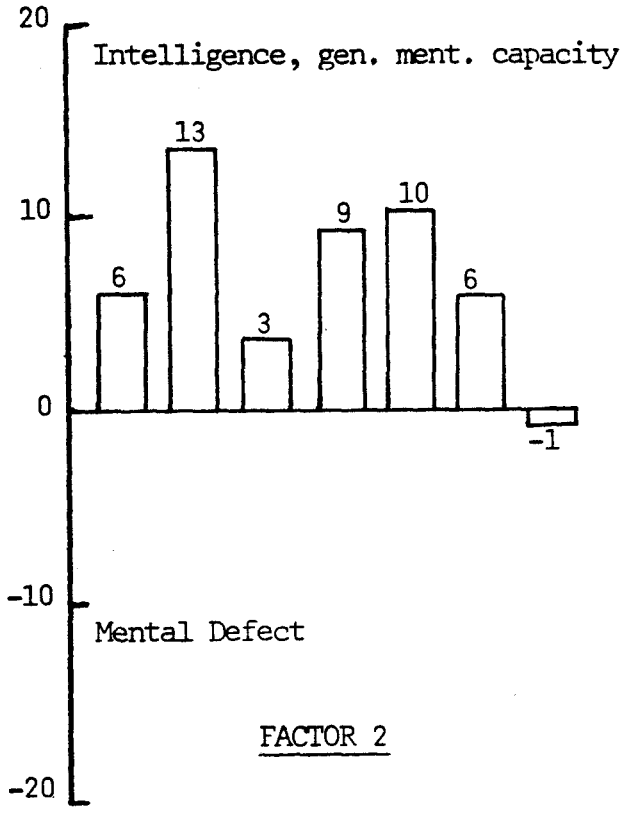
Factor 1 = Cyclothymia vs. Schizothemia

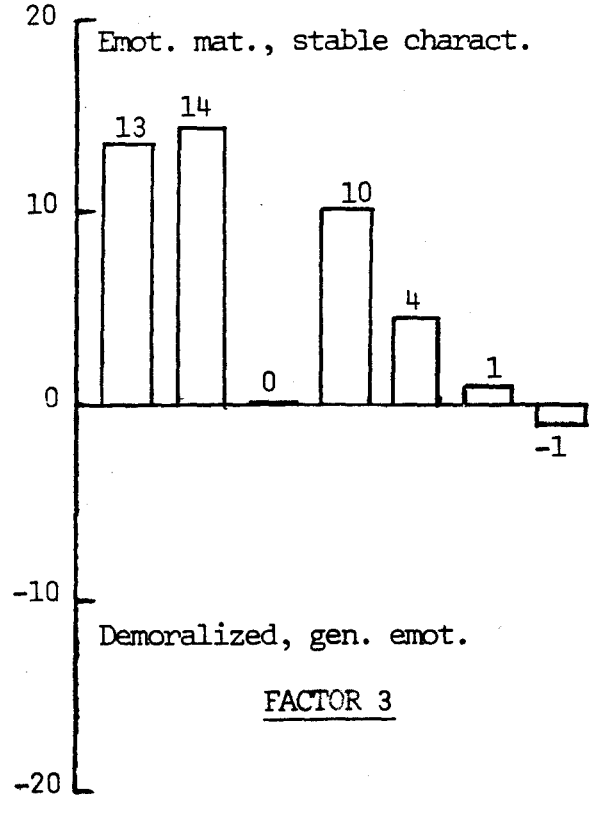
Factor 2 = Intelligence, general mental capacity vs. Mental Defect.

Factor 3 = Emotionally mature, stable character vs. Demoralized general emotionality.

Factor 4 = Hypersensitive, infantile emotionality vs. Phlegmati frustration tolerance.


Cyclothymia
20
10
0
-10
-20
14
22
20
15
15
15
11
1
2
3
4
5
6
7
Schizothymia
FACTOR 1


20
10
0
-10
-20
Intelligence, gen. ment. capacity
6
13
3
9
10
6
-1
Mental Defect
FACTOR 2


20
10
0
-10
-20
Emot. mat., stable charact.
13
14
0
10
4
1
-1
Demoralized, gen. emot.
FACTOR 3

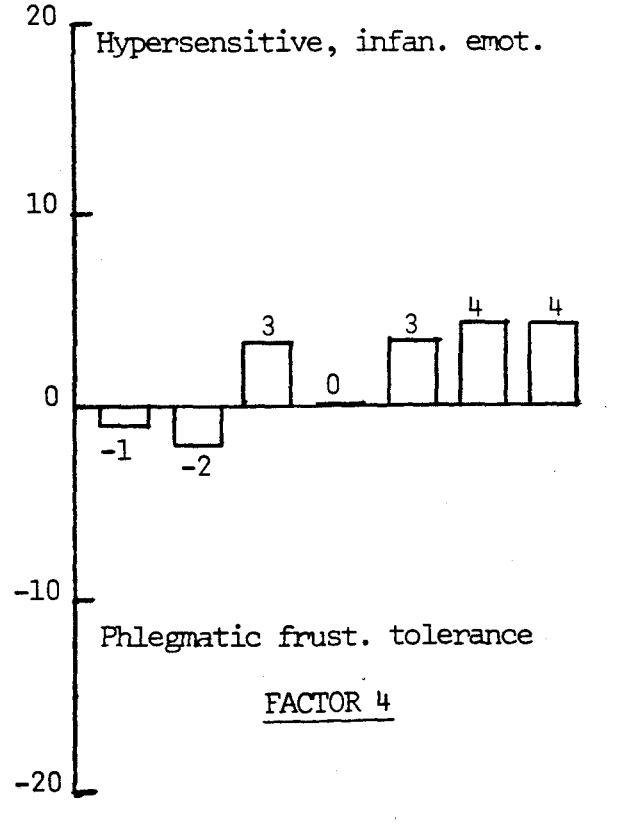

20
10
0
-10
-20
Hypersensitive, infan. emot.
-1
-2
3
0
3
4
4
Phlegmatic frust. tolerance
FACTOR 4

TABLE 6

Code Group Means on Cattell's Twelve Factors
(Continued)

KEY

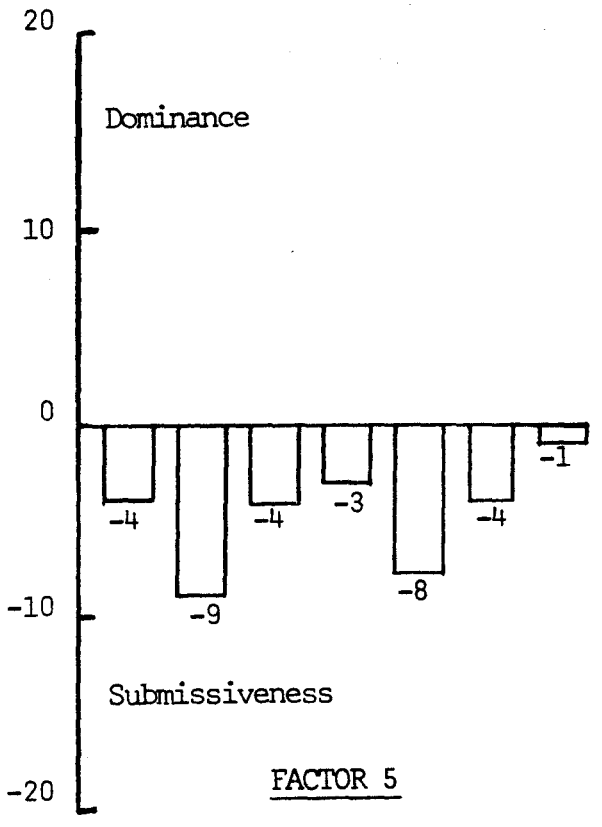
Code Group Types 1 -7	Ordered from left to right
Group Means	Percentage of adjectives scored in the particular direction note

Factor 5 = Dominance vs. Submissiveness

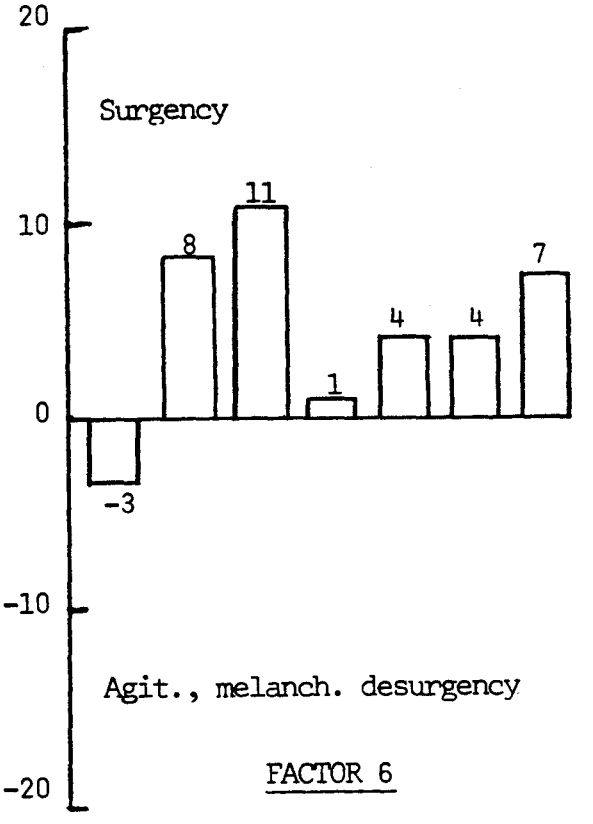
Factor 6 = Surgency vs. Agitated, melancholic desurgency.

Factor 7 = Positive character integration vs. Immature dependent character.

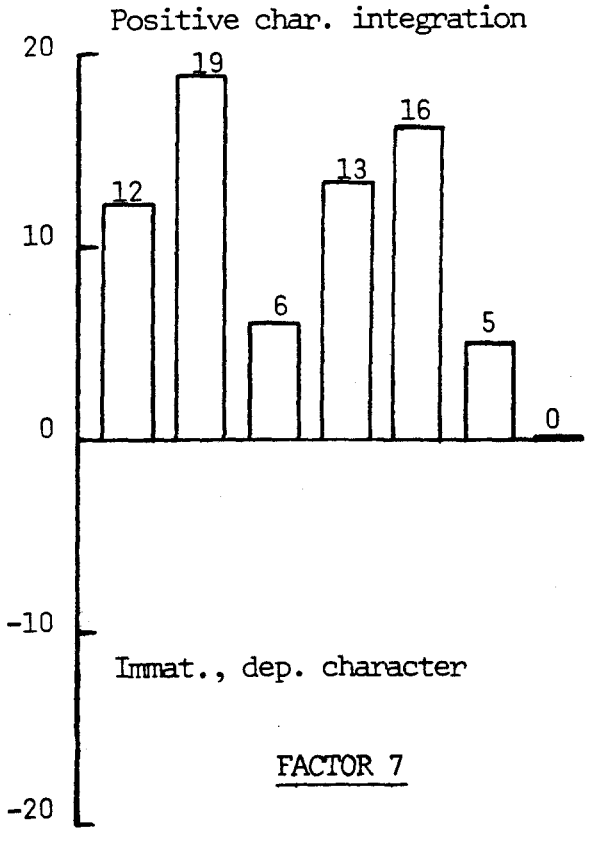
Factor 8 = Charitable, adventurous cyclothymia vs. Obstructive, withdrawn schizothymia.



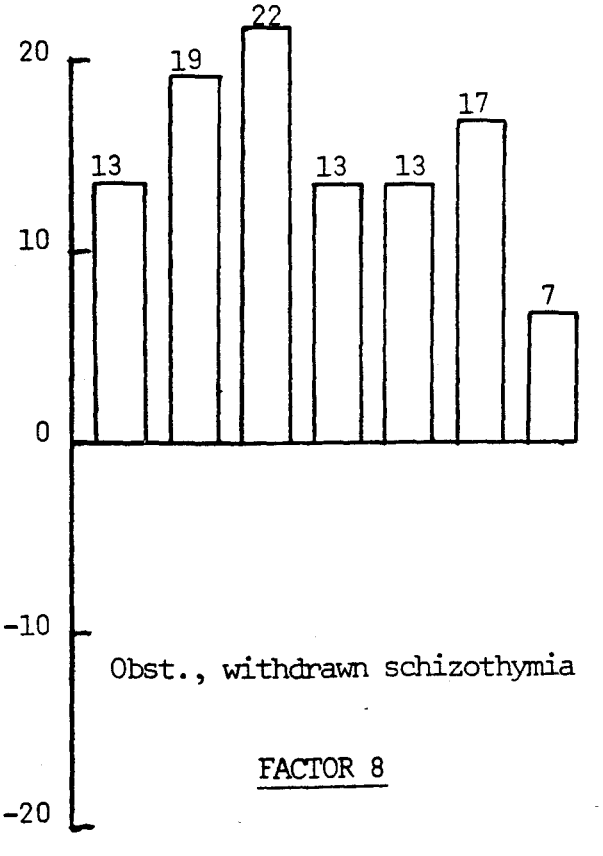
FACTOR 5



FACTOR 6



FACTOR 7



FACTOR 8

TABLE 6

Code Group Means on Cattell's Twelve Factors
(Continued)

KEY

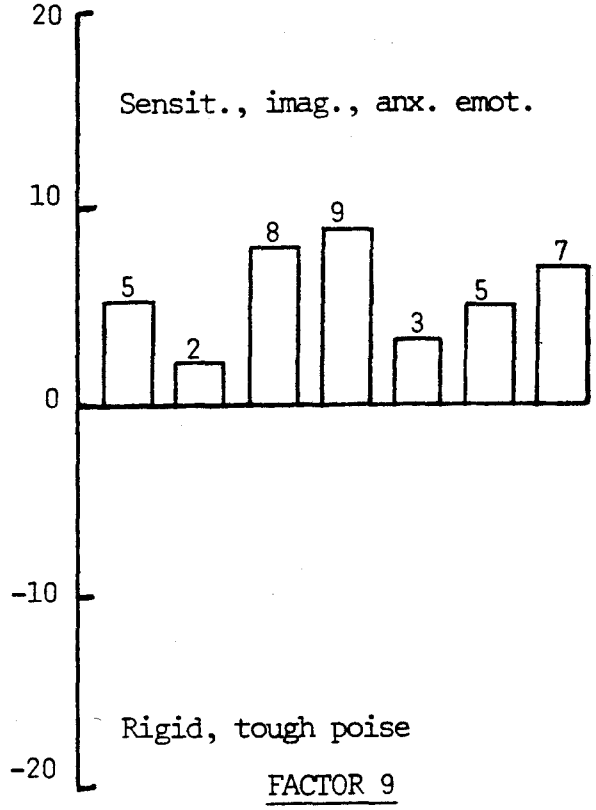
Code Group Types 1 - 7	Ordered from left to right.
Group Means	Percentage of adjectives scored in the particular direction not

Factor 9 = Sensitive, imaginative, anxious emotionality vs Rigid, tough poise.

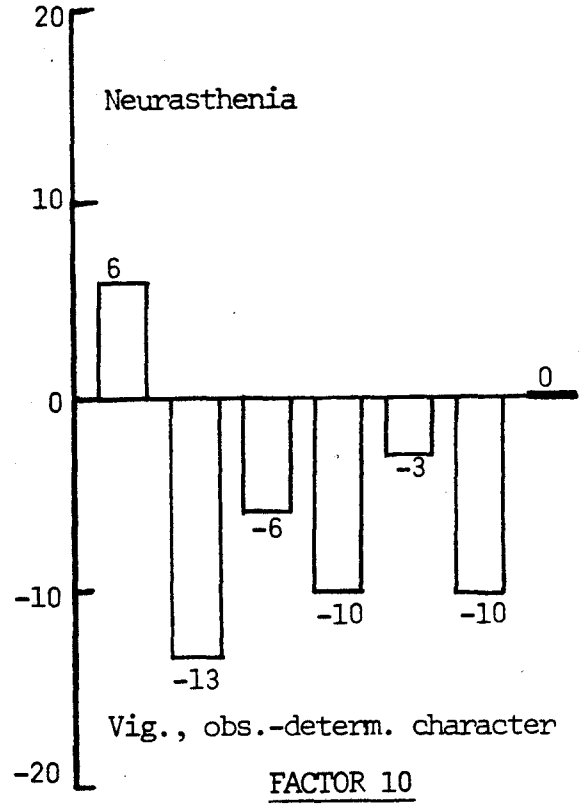
Factor 10 = Neurasthenia vs. Vigorous, obsessionally determined character.

Factor 11 = Trained, socialized, cultured mind vs. Boorishness.

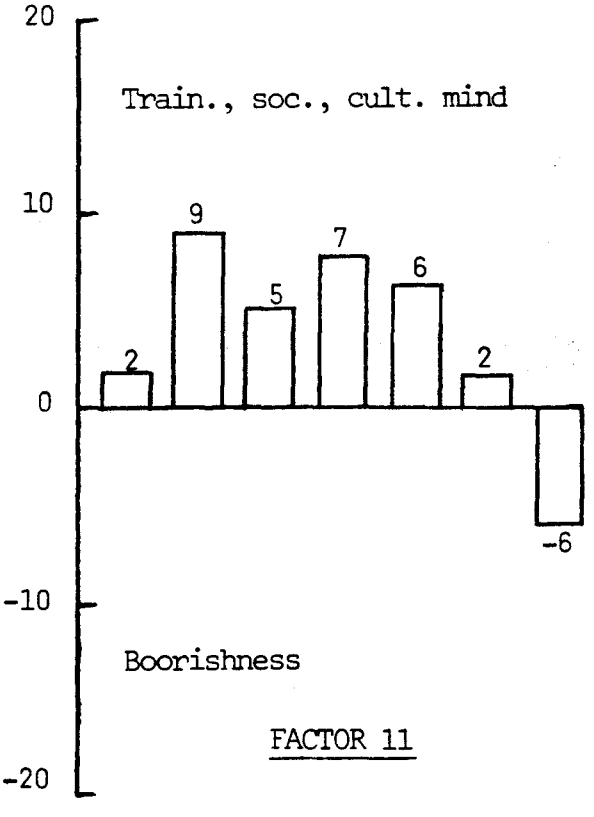
Factor 12 = Surgent cyclothymia vs. Paranoia



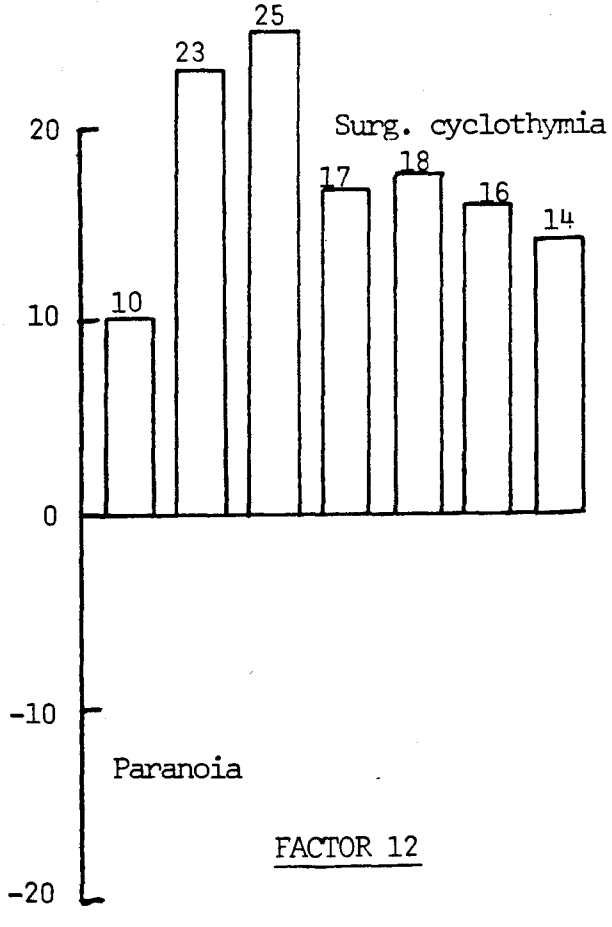
FACTOR 9



FACTOR 10



FACTOR 11



FACTOR 12

Factor 7 and Factor 10 show the widest range of difference between groups with 19 percentage points separating the highest and lowest group means.

Table 7 is a summary of the results in terms of the characteristics emerging for each group across factors. This description of the code type groups utilizes the two highest and two lowest scores on each of the factors, omitting values falling in the middle range of scores for each factor.

The discriminate analysis performed utilized only Factor 11 in developing a discriminant function since the other factors did not meet the tolerance and F value criteria for inclusion in further analysis. For the discriminate function including Factor 11, the Wilks' Lambda value was .842 and the significance level .037.

Groups 2 and 7, the code types 3-7 (maturity and sleep disturbance) and 6-8 (activity level and somatization) respectively, were most distinctly discriminated along the twelve factors utilized. The largest proportion of subjects was correctly classified by the discriminate function for these two groups, with 64.3% of Group 2 and 57.9% of Group 7 correctly classified.

This analysis reflected a discrimination and classification of groups attempted utilizing all twelve factors together for the seven groups and the results were very limited since the data for most of the factors was not usable for this type of analysis.

TABLE 7

Summary of Group Characteristics

Group 1 - Code type 3 - 5 Maturity-Inhibition:
Low Cyclothymia (14%, Factor 1), low phlegmatic frustration tol. (-1%, F 4), low on agitated melancholic desurgency (-3%, F 6), high neurasthenia (6%, F 10), low socialized, cultured mind (2%, F 11), low surgent cyclothymia (10%, F 12).

Group 2 - Code type 3 - 7 Maturity-Sleep disturbance:
High Cyclothymia (20%, F 1), high intelligence (13%, F 2), high emotionally mature, stable character (14%, F 3), low phlegmatic frustration tolerance (-2%, F 4), high submissiveness (-9%, F 5), high surgency (8%, F 6), high positive character integration (19%, F 7), high charitable, adventurous cyclothymia (20%, F 8), low anxious emotionality (2%, F 9), high obsessionally determined character (- 13%, F 10), high trained, socialized, cultured mind (9%, F 11), high surgent cyclothymia (23%,F 12).

Group 3 - Code type 4 - 6 Aggression-Activity Level:
High Cyclothymia (22%, F 1), low general intelligence (2%, F 2), low emotionally mature stable character (0%, F3), High surgency (11%, F 6), high charitable, adventurous cyclothymia (22%, F 8), high imaginative, anxious emotionality (8%, F 9), high surgent cyclothymia (25%, F 12).

Group 4 - Code type 5 - 6 Inhibition-Activity Level:
low submissiveness (-3%, F 5), low surgency (1%, F 6), high imaginative, anxious emotionality (9%, F 9), high obsessionally determined character (-10%, F 10), high socialized cultured mind (7%, F 11).

Group 5 - Code type 5 - 7 Inhibition-Sleep Disturbance:
High general intelligence (10%, F 2), high submissiveness (-8%, F 5), high positive character integration (16%, F 7), low charitable, adventurous cyclothymia (13%, F 8), low sensitive, imaginative, anxious emotionality (3%, F 9).

Group 6 - Code type 5 - 8 Inhibition-Somatization:
High hypersensitive, infantile emotionality (4%, F 4), low positive character integration (5%, F 7).

Group 7 - Code type 6 - 8 Activity Level-Somatization:
Low cyclothymia (11%, F 1), mental defect (-1%, F 2), demoralized, general emotionality (-1%, F 3), high hypersensitive, infantile emot. (4%, F4), low submissiveness (-1%, F5), immature, dependent character (-1%, F 7), low advent. cyclothymia (7%, F8), low neurasthenia (3%, F10), boorishness (-6%, F 11), low surgent cyclothymia (14%, F 12).

CHAPTER V

DISCUSSION

The results of this study reflect some success in utilizing a two-point configurational analysis for interpreting the MCPS. This configurational analysis resulted in the identification of several code types that reflect homogeneous personality characteristics and traits of these individuals. Establishing these kind of empirically determined types provides a framework to use the MCPS as a broader personality inventory. Especially for use with a normal population, such as in this study, descriptions of personality styles lends meaning to profile results even when gross pathology or extremely elevated scores are not expected or sought.

The results of this study confirmed the possibility of obtaining useful personality information within a normal population. Some specific, identifiable personality types did emerge from this normal sample. Not all the MCPS scales were equally salient in describing the subjects and also some combinations of scales occurred together much more frequently than others. The five clinical scales of the MCPS (scales 4-8) suggest characteristics which more readily identify individual personality differences than the first three scales. The first three scales do not often emerge among the two highest scales on profiles across this whole sample. In this normal population, these three scales (1-3), which serve as measures of normality,

tend to fall in a medium range of values and do not usually provide a distinguishing characteristic of the individual.

The final sample of seven code type groups selected for analysis only contain profiles with two scaled scores that are at least one standard deviation above the mean. However, these same seven groups are the most frequently occurring types among the entire sample of 311 subjects even without this selection criteria. This trend suggests these are commonly occurring personality types and reflects a continuum rather than an unusual sample of types being identified with elevated scores. The selected sample does differ from the total sample in that more than twice as many males as females are represented, where as the total sample shows a fairly evenly divided sex ratio (selected sample 58 males: 26 females, total sample 162 males: 149 females).

These identifiable code types differ in their degree of homogeneity. Groups two (code type 3-7, maturity and sleep disturbance), three (code type 4-6, aggression and activity level) and seven (code type 6-8, activity level and somatization) were most consistently and thoroughly described (See Table 5). The other four groups showed less homogeneity within the group. Three of these four groups are small in terms of their total number of subjects analyzed and this may contribute to some of the uncertainty. It is also possible that these code types include a more varied or complex group of individuals or ones harder to describe clearly. With group 4, however, the code type of inhibition and activity level scales (5-6), the first hypothesis is less likely since this group has a higher number of subjects in it, comparable to the first three groups mentioned earlier. This particular

code type (5-6) stands out for a number of reasons. At face value, the combination of high inhibition and high activity level seems incongruous and this confusion may be the core of the difficulty with this code type. Subjects in this group were least evenly described and the group is made up of a mix of individuals at times characterized as complete opposites, such as talkative and quiet, orderly and disorderly, or sociable and shy. This group is composed of 11 males and 4 females and is also the only code type in which there are more subjects in the selected sample with elevated scores (15) than those remaining in the total sample (12). It may be that this particular code type differs from the general trend stated earlier that a continuum in scores was evidenced from the whole population tested with the MCPS to those with elevated scores selected for analysis. Rather this code type may not occur as frequently in the normal population and reflect more disturbance or confusion.

The group that emerges most consistently and positively described is group 2, or the code type combination of maturity and sleep disturbance (3-7). Aside from being described by numerous positively laden adjectives consistently within the group, the words used distinguishing them from other groups are also very positive. This group was the only one evenly balanced in sex ratio, being made up equally of males and females. These factors imply a well balanced, healthy group of subjects and indicate that some level of sleep disturbance, at least in combination with maturity, may not be readily interpreted as pathological or abnormal.

The characteristics of the instruments used to obtain the descriptive data and teachers' response styles need to be considered in

interpreting the results of this study. Several such dimensions assessed were the positive or negative connotation for the words themselves on this adjective checklist, the frequency of usage of the words by all the teachers, and different teachers' styles in total number of adjectives they used to describe individual subjects.

Significant differences were evident in the frequency of usage of the adjectives on the checklist. This most often reflected the connotation of the words, with strongly positively laden adjectives being applied more frequently than strongly negatively laden adjectives. Some variation also appears to be due to lack of familiarity with the words, misinterpretation of the words or divided meaning attached to the words.

Taking these dimensions into account permits some qualification of simple frequency counts for the adjective checklists. For example, words like friendly and honest are consensually seen as positive and are also frequently used by the teachers, describing more than half the total sample. These words are similarly used to describe more than half the subjects in most of the code type groups and it may be reasonably interpreted that these words are benign, positive descriptions applied to most individuals and do not indicate strongly salient or distinguishing traits.

This kind of analysis tempers the results in both decreasing the importance of words used frequently, but relatively indiscriminately, and also increasing the significance of words less frequently used overall and more negative in meaning. When a seldom used or negatively laden word emerges describing one group relatively much more frequently than others, this seems to represent a significant characteristic, since it must override

the strong respondent bias towards positively laden, commonly used words. Of course, since this is a normal population being studied, one would expect these trends to some degree and they are more reflective of the normalcy of the population than any unco-operativeness or insincerity of the teachers rating these subjects.

Keeping in mind these trends and biases outlined, it follows that the further analysis grouping adjectives according to Cattell's twelve factors, or personality dimensions, also reflects these same conditions (See Table 6). Comparing the code type groups along the twelve personality dimensions rather than with single adjectives, we find the same general results supported. Again, the range of variation along any single factor is not large and remains within normal personality variations, no dramatic pathological characteristics being reflected in any code type. The analysis according to personality factors as defined by Cattell primarily assists in the organization of personality types or styles to describe individuals rather than relying on isolated single words. This organization is consistent with more global recognized dimensions of personality and identifiable styles within the normal sphere of personality.

Several specific factors are interesting to note with regards to the differences highlighted between code type groups and also general characteristics of the population sampled. Across most of the twelve factors, the distribution is generally in the positive range, or what Cattell identifies as the positive side along that bipolar personality dimension. However, for some factors, which is the desirable or healthy side along the given dimension is not as readily evident as Cattell's system defines. The

positive or negative sign to these factor dichotomies should be taken more as a psychometric description than clearly established or accepted values attached to personality characteristics.

The first factor, cyclothymia-schizothymia gives an overview of this population which is consistent with what one would expect within a normal population on a fairly comprehensive dimension of personality. Cyclothymia encompasses a positive, extroversion oriented, well-balanced group of traits (See Appendix C) and normal individuals may be expected to vary in degree but generally exhibit a tendency toward this healthy pole than the more unhealthy schizothymic characteristics. Comparing this first factor with factor 8 further qualifies and expands the dimension assessed. It appears that factor 8 is very similar to factor 1, but includes a more manifest component and looking at these two factors together one can hypothesize the interaction of underlying personality dynamics and their overt behavioral expression. For example, on the first factor, group 2 scored highest and appears as the most healthy, mature group overall, with group 3 the next highest. When contrasted with factor 8, the order is reversed and group 3 scores higher than group 2, leading to one possible hypothesis that in group 3 the adventurous, active, energetic components which are part of the cluster of traits comprising the cyclothymic personality dimension are more manifest in these individuals and, therefore, more directly or behaviorally expressed.

Factor 7 provides an interesting overview of this population. On a dimension that attempts a global measure of overall character integration, we find there is wide variation between different code type groups, consistent with other characteristics noted in the results, yet still indicative of a

normal population, predominantly distributed toward the positive side of the continuum. These types of variables, that can be sensitive to individual or group personality style differences are valuable in supporting the position that such discrimination is possible even within normal subjects.

Two other population characteristics are worthy of note in that they appear to differ from the expected, overall positive results with a normal population. Factor 5 shows this population to be generally submissive rather than dominant, seemingly a more negative or undesirable quality. However, looking at Cattell's Factor 5 more closely, it is evident that the adjectives describing a more submissive personality includes some positive and often used words in this sample. Also, since this population studied is made up of young children, this tendency towards submissiveness is often fostered and seen as desirable. It is important, therefore, as noted earlier, to view Cattell's factors as bipolar dimensions and analyze the specific characteristics included rather than attribute a positive or negative quality solely on the basis of the sign in Cattell's polarity. Similarly, with factor 10, children in a school setting would be encouraged to demonstrate more obsessional, independent, perserving and practical behaviors or characteristics and these traits may be highly valued by the teachers. Therefore, the setting and the relationship of the subjects to the raters may impact also on the qualities judged as positive or desirable, and focused on by the raters.

Moving from analyzing single factors to the twelve factors interacting together, we begin to develop more comprehensive, differential portraits of the groups, capturing some of the essential dimensions which

together form what Cattell names the sphere of personality. Table 7 pulls together these different dimensions and the seven code types, in comparison to each other, emerge as distinct combinations of characteristics. Different tendencies can be identified with each of the code types even when the range varies within a normal continuum.

Such information as can be obtained through configurational analysis approaches with MCPS profiles, identifying personality factors characteristic of certain groups of individuals, tremendously augments the clinical interpretability and application of these results. As in current uses of the MMPI, interpreting results in terms of the relationship of different factors interacting together enters an altogether new realm of clinical application of psychological tests than solely tools for screening pathology. Insights into the relationship and interaction of diverse personality dimensions and the role these play in individual personality dynamics, as can be gained through this type of analysis, can assist clinicians in a variety of settings in understanding both normal and abnormal differences in personality.

This study resulted in some relative success supporting the development of a configurational analysis system for the MCPS. A number of weaknesses and difficulties both in this particular study and in this type of research in general emerged.

Specific to this study, it is unclear how much sample bias may be occurring utilizing these two schools from a predominantly Hispanic, poor community and a middle class population in an isolated suburb. The results of this study differ from the MCPS authors' findings with their

standardization population in that approximately one third of the population in this study (106 of the total 311 subjects) had two or more scaled scores elevated more than one standard deviation above the mean. This proportion is almost double the expected number consistent with the authors' standardization, which would lead one to predict that approximately 16% of a normal population would score one standard deviation above the mean on any scale. It appears less likely then for one third of a normal population to score more than one standard deviation above the mean on two or more scales. This elevation in the scores may be related to this sample, perhaps reflecting some specific bias, or indicate some lack of generalizability of the authors' standardization population.

The resulting two point code types that emerged naturally in this normal population sample are consistent with the authors' results in that the scales occurring together (such as 3 and 7, 6 and 8) were found by the authors to be most highly intercorrelated (See Appendix G). This raises questions whether this phenomenon reflects traits or characteristics that naturally and frequently exist together in individuals or simply a function of the construction of the test, indicating lack of independence of the scales.

The criterion cut-off used in this study, allowing further analysis of only profiles with two scaled T scores greater than 60, appears to have created a selection bias resulting in disproportionately more males being included in the final sample than females. The cause of this difference with males being overrepresented among elevated scores is open to alternate explanations. It is possible that this overrepresentation of males could be related to existing variations in problems manifested more overtly or

frequently in males than females, or it may be an artifact of the instrument arising from the test's development or standardization.

Finally, some methodological difficulties inherent in this type of exploratory, descriptive research also affected this study. The methodology applicable to this research, especially with normal subjects, relies on narrative or descriptive information provided by raters or observers to assess the constructs being tested. Rater biases and inconsistencies, therefore, enter into the results and need to be assessed and taken into account in analyzing the findings. In this particular study, the raters, here teachers, exhibited a number of response biases and attempts were made to assess these and include them in interpretations of the results. To some extent, these tendencies, such as teachers' individual differences in number of adjectives they typically used to describe subjects, can be overcome by sufficient numbers of raters being included to balance out individual variations. Other biases, however, are more pervasive and affect the interpretation of results. Here, the connotation of adjectives and their frequency of usage overall comprised response biases significantly influencing the results. This methodology is also very limited in established approaches to analysis or sophisticated statistical procedures. Rather, this research relies predominantly on empirically established findings through replications and accumulated results.

Considering both the encouraging results of the present study and also the weaknesses and limitations emerging, further such research appears warranted. Noting the weaknesses observed in this study, the following proposed recommendations and directions for future research would address

the specific problems outlined and clarify some of the more global uncertainties of the instrument or methodology.

Simply further similar study would provide a tremendous step toward clarifying the issues raised here. Accumulation of more data could offer empirical support for the present results or evidence of alternative possibilities or inconsistencies. Increasing the number of subjects tested, with a larger, more homogeneous population sample would also demonstrate if the present population characteristics are indicative of a deviant or biased sample or consistent with expectations for a normal population.

Other improvements to the present study would include eliminating the criterion cut-off of two scaled T scores greater than 60, since this created an unbalance in the sex ratio of subjects. This selection also may be unnecessary since the same code types seem to emerge consistently in the total sample and selected sample and meaningful personality information could be obtained along the whole continuum of scores.

Rater response biases can be better interpreted even if not eliminated, through studying increased numbers of respondents. Also, it would be possible to have the respondents themselves rate their connotations and knowledge of the adjectives to allow a more direct interpretation of these tendencies or biases.

Although it has been noted that this type of personality research does not rest heavily on sophisticated methodology or statistical analysis, other more productive approaches than a discriminate analysis should be considered. The discriminate analysis performed here was very limited in

usefulness due to the nature of the data and the type of analysis itself. Normal personality types differ in degree along a continuum of personality dimensions and in complex combinations of characteristics. These subtle, intricate differences are not readily distinguished by a global, consistent formula. It appears that the best approach would involve assessing the impact or role of each factor both individually and in relation to other factors in a way that does not combine all dimensions equally and does not lose the uniqueness of the groups or factors.

Finally, again, the most important element to evaluate the accuracy and reliability of the present results is further exploration. Only the empirical accumulation of evidence supporting or contradicting these findings will conclusively resolve the uncertainties. The establishment of any useful approach or instrument to increase our understanding in the realm of human personality must be guided through careful, continued study.

SUMMARY

In the present study, the development of a configurational analysis system for the Missouri Children's Picture Series was explored. This non-verbal, pictorial test's potential usages may address a current lack in objective, easily administered personality assessment instruments for young children. This test's profile format, providing scores on eight scales, readily lends itself to a configurational approach, permitting analysis of the interrelationship of personality factors.

The results of the present study support such a configurational use of profile data, specifically a two-point code analysis. These findings indicate that valuable descriptive personality information can be attached to specific two-point code types. Some code types emerged as more significant than others. In particular, seven two-point configurations occurred frequently enough within this normal population to allow analysis.

Analysis of the identifiable code types provided support for the hypotheses postulating that not all two-point combinations are equally likely and also that the last five scales, or clinical scales, will occur more frequently among the elevated scores. Specific descriptive information was empirically established for each of the seven code types identified in this study.

These findings form a beginning system for attaching meaning to various personality styles such as emerging from the MCPS two-point code types.

The weaknesses and unanswered questions of this study were then analyzed and possible improvements and extensions proposed. From this first exploration, continued investigation of configurational analysis of MCPS profiles to obtain descriptive personality information with young children appears a profitable and warranted endeavor.

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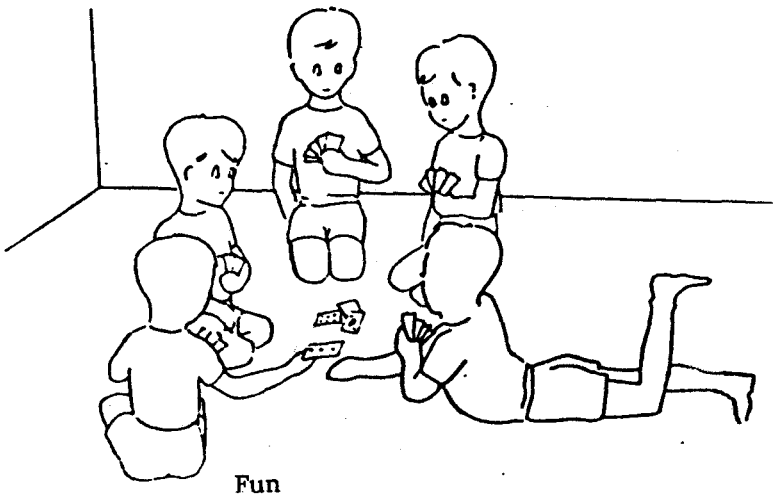
APPENDIX A

SCALE 1 - CONFORMITY



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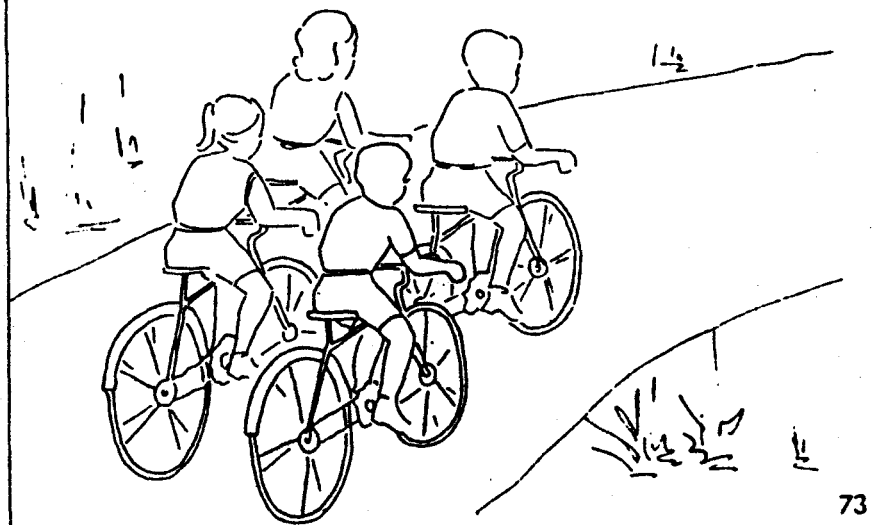

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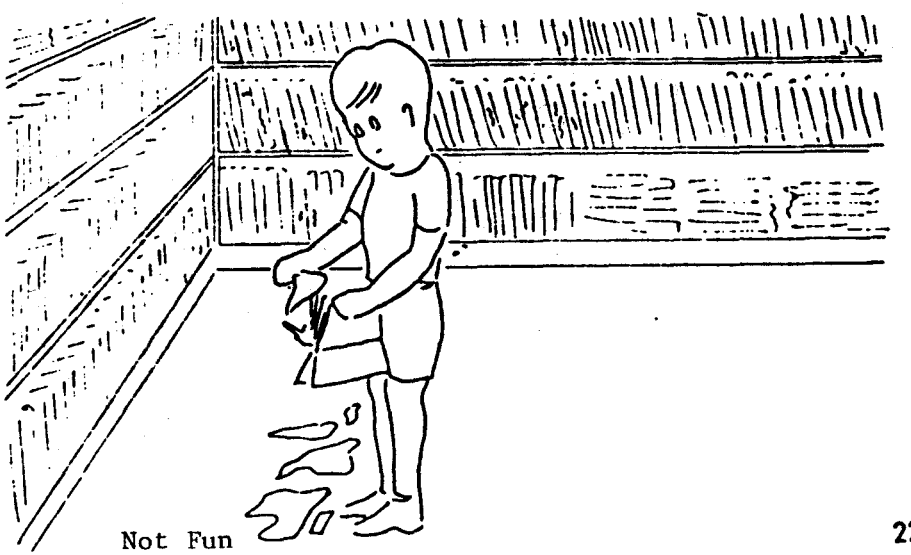

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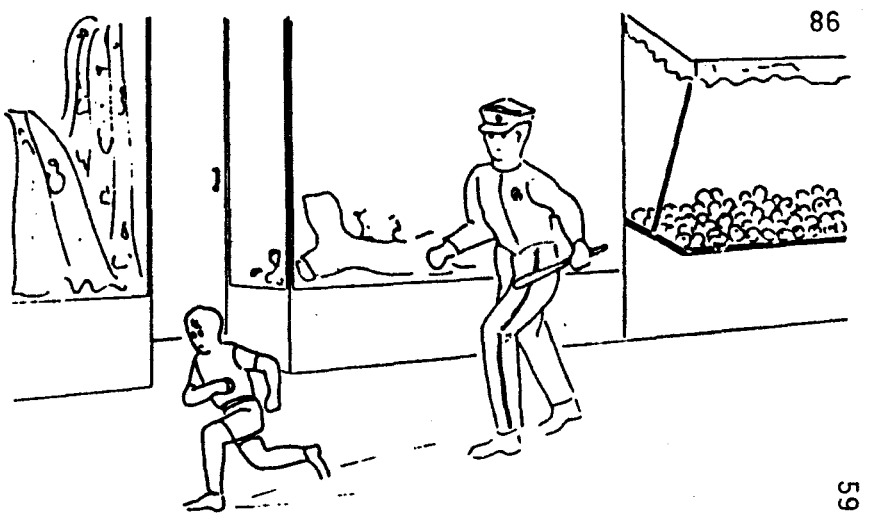

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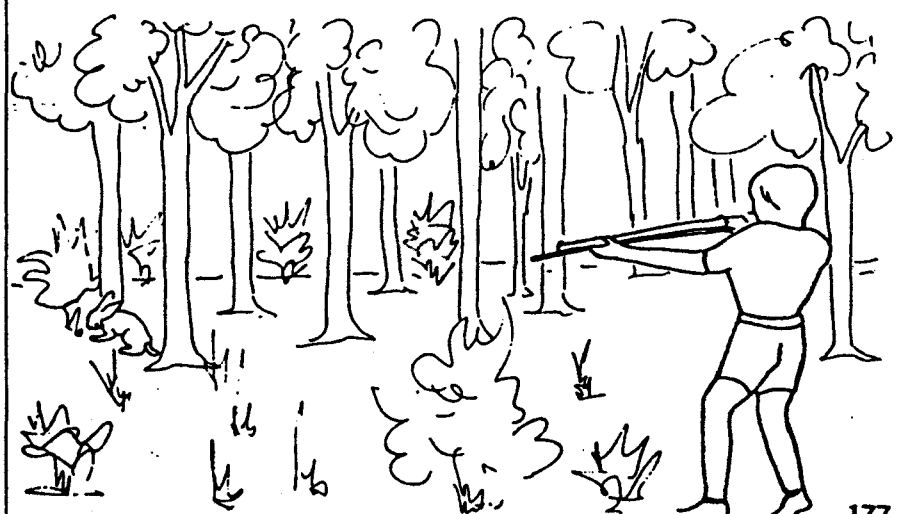
SCALE 2 - MASCULINITY- FEMININITY

81

Fun



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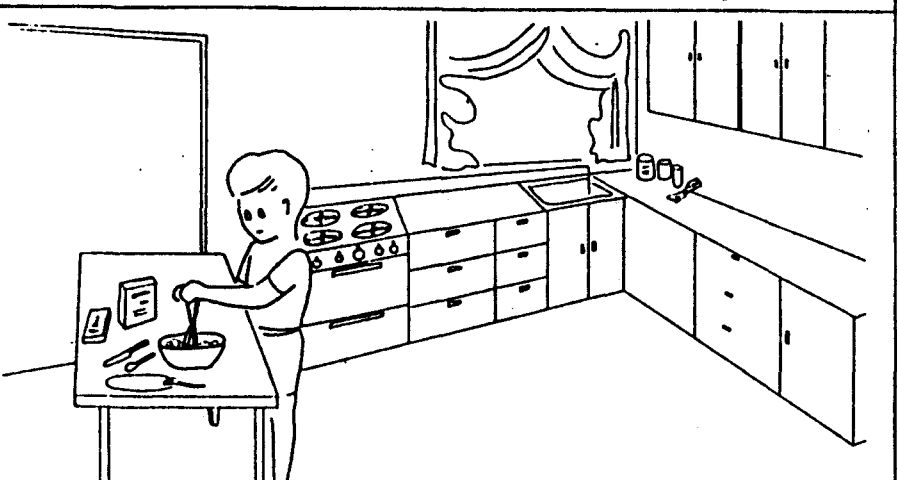
Fun



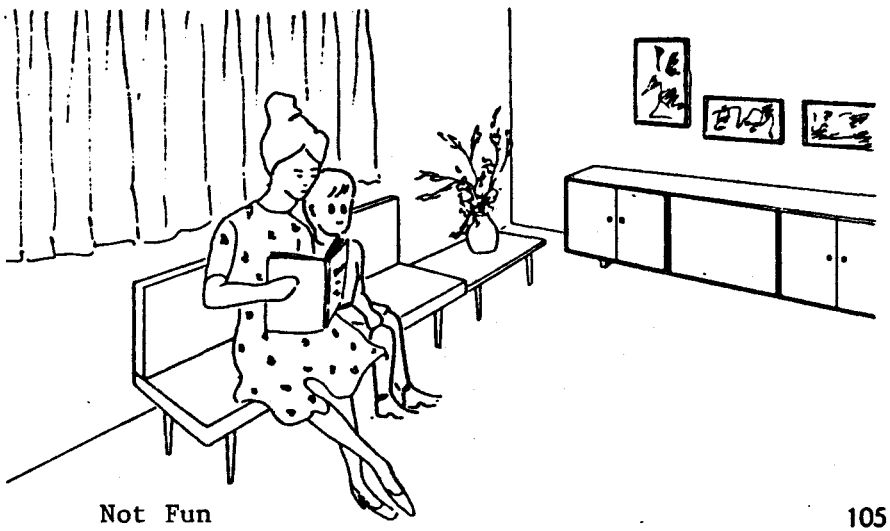
212

Not Fun

110

Not Fun

SCALE 3 - MATURITY



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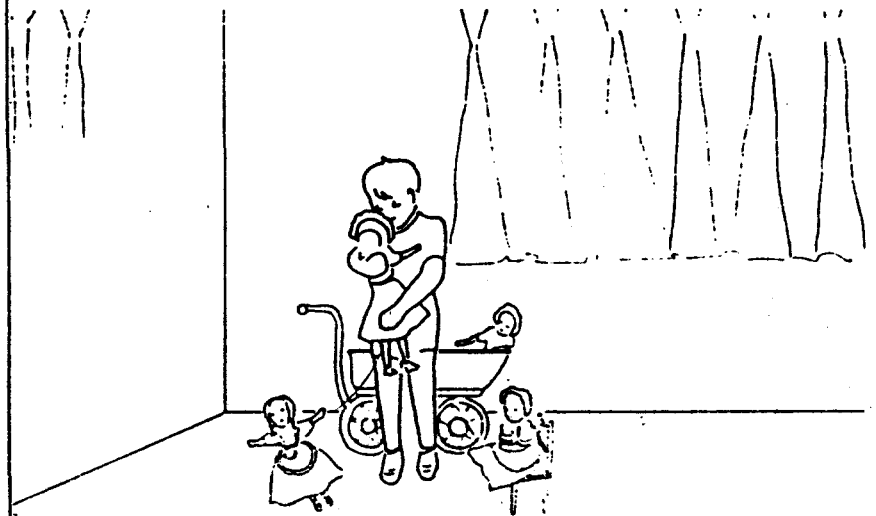

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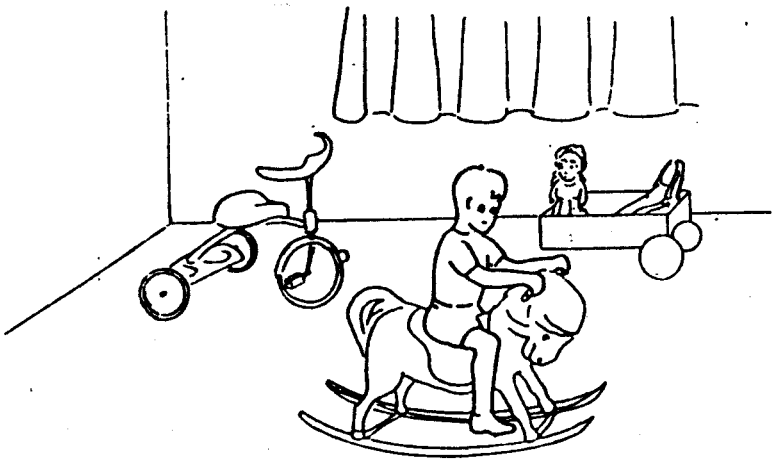

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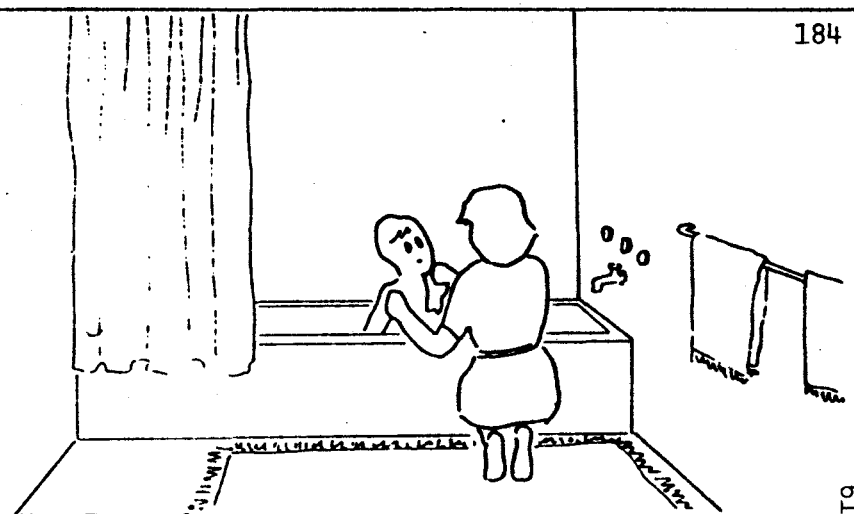

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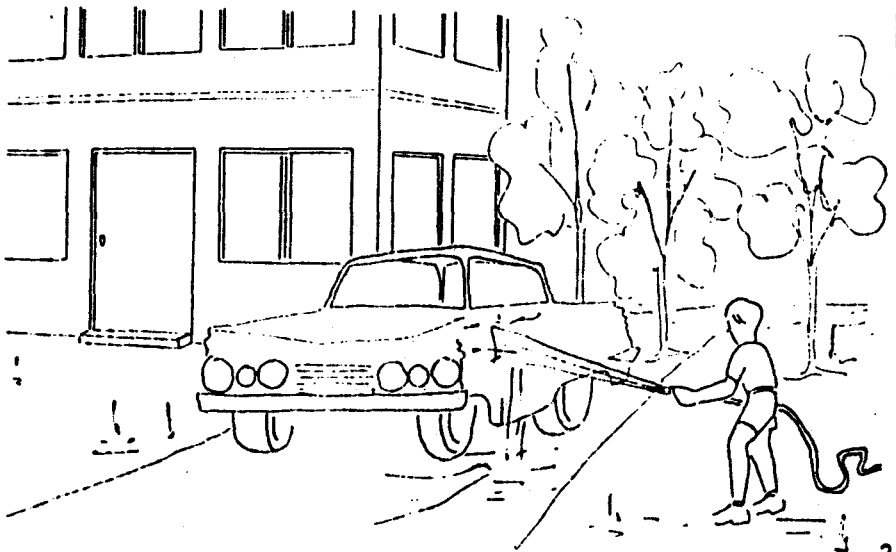
SCALE 4 - AGGRESSION



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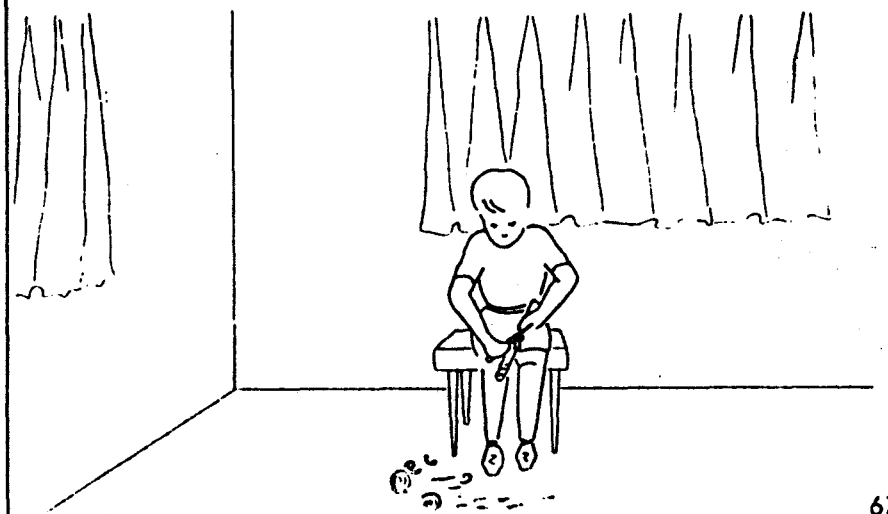

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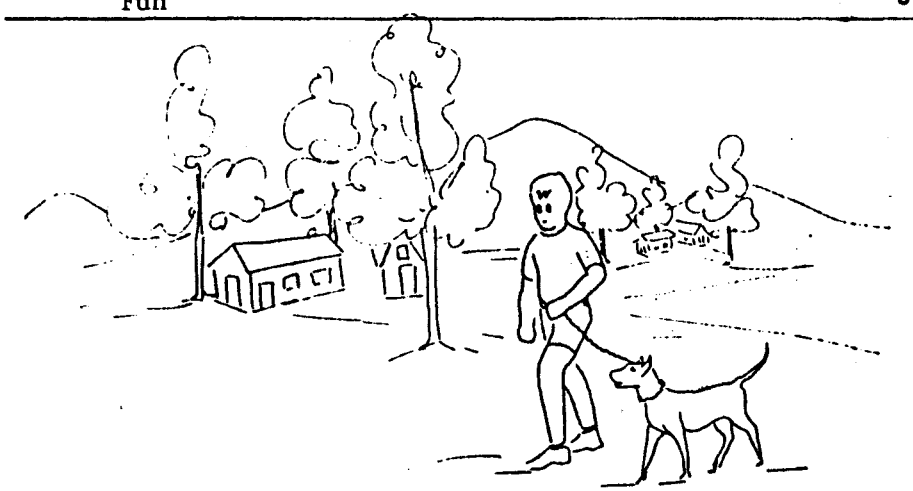
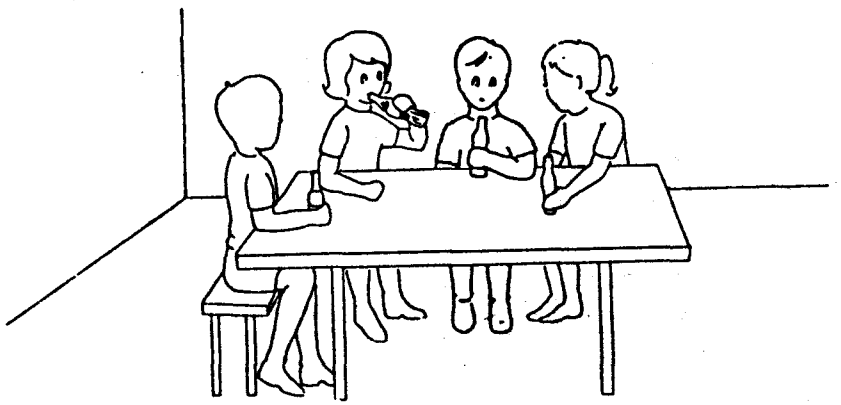


Fun 181

Fun 107

62

SCALE 5 - INHIBITION



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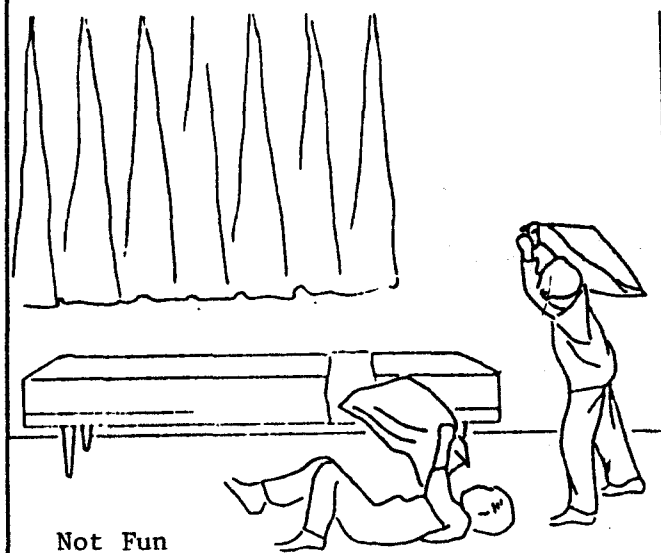

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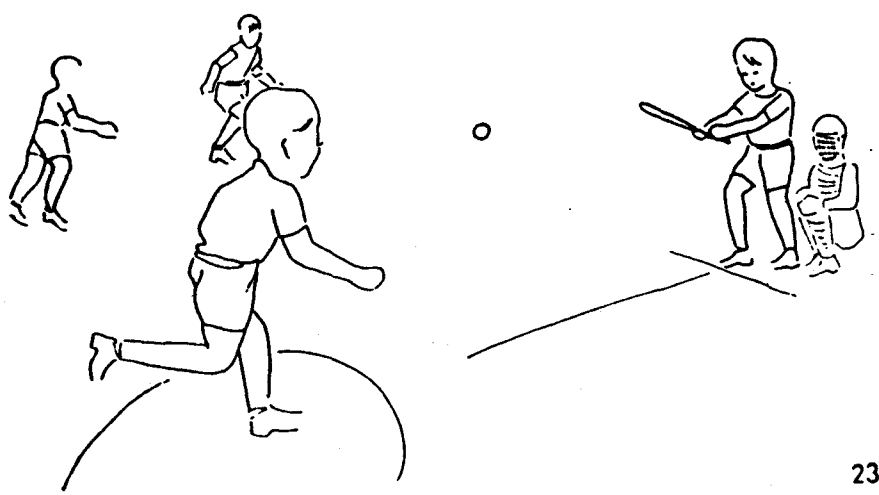

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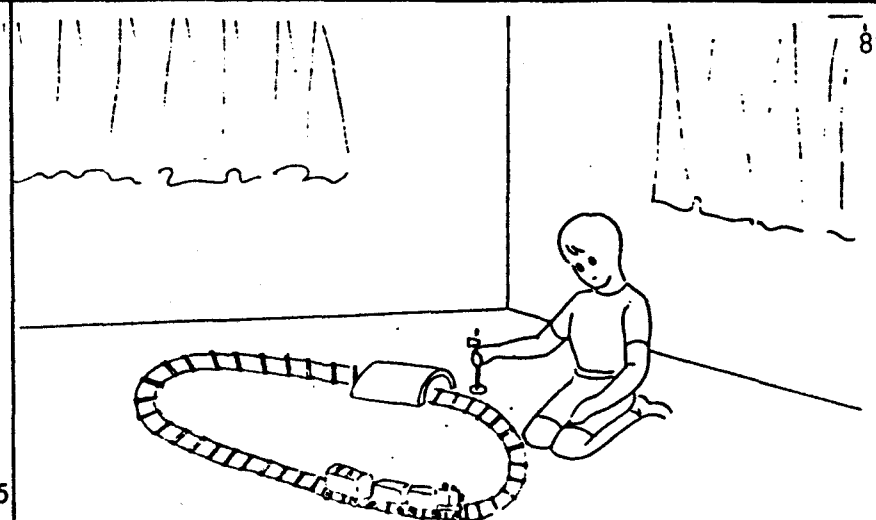
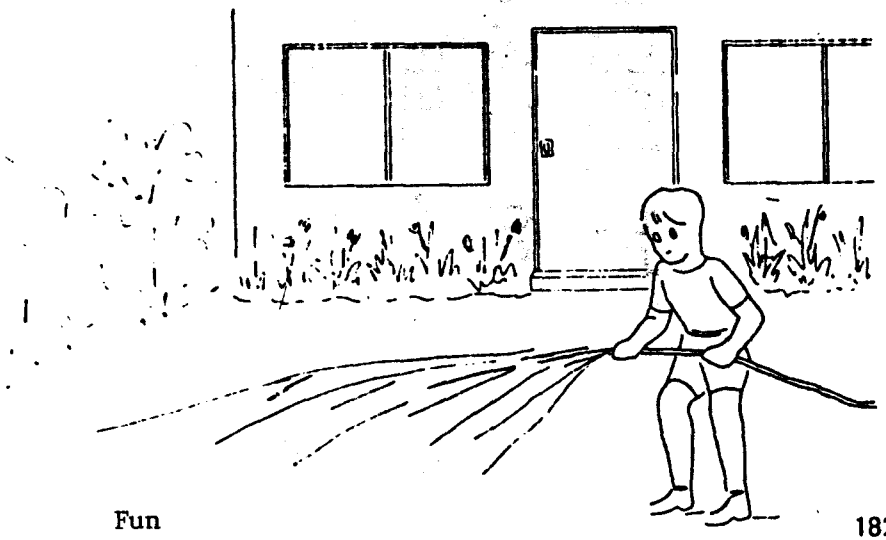


Fun 63

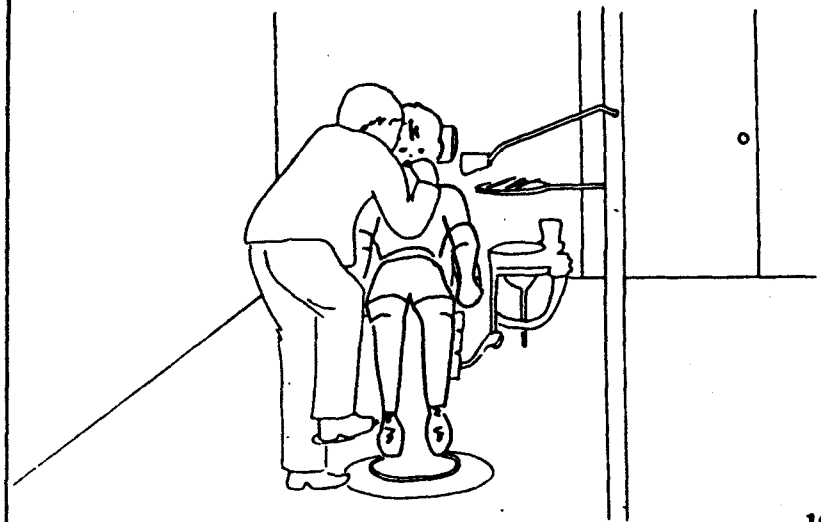
82

SCALE 6 - ACTIVITY LEVEL



Fun

182



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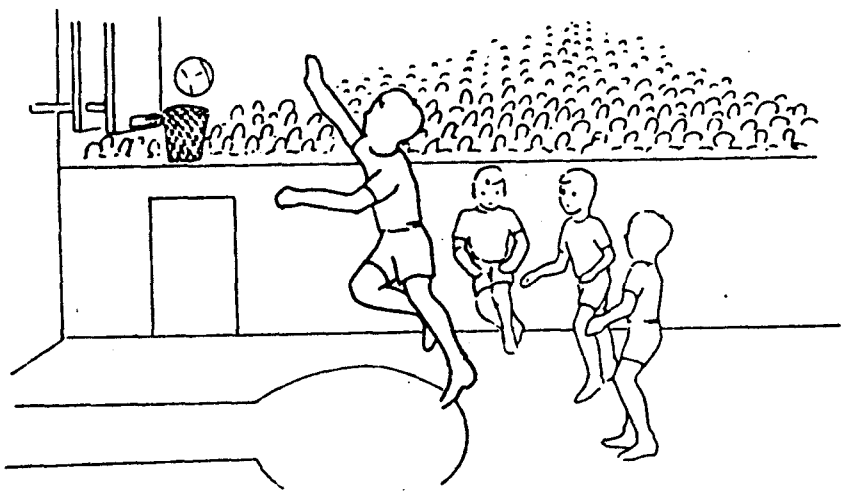

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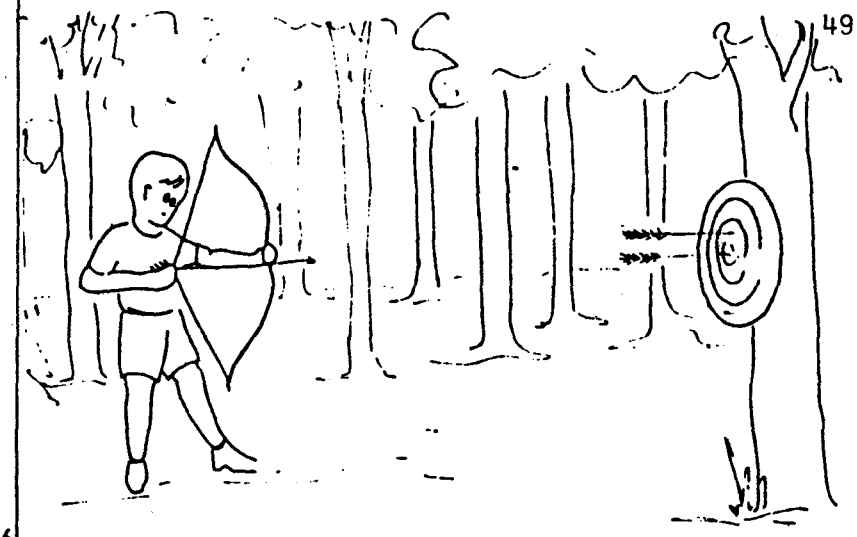

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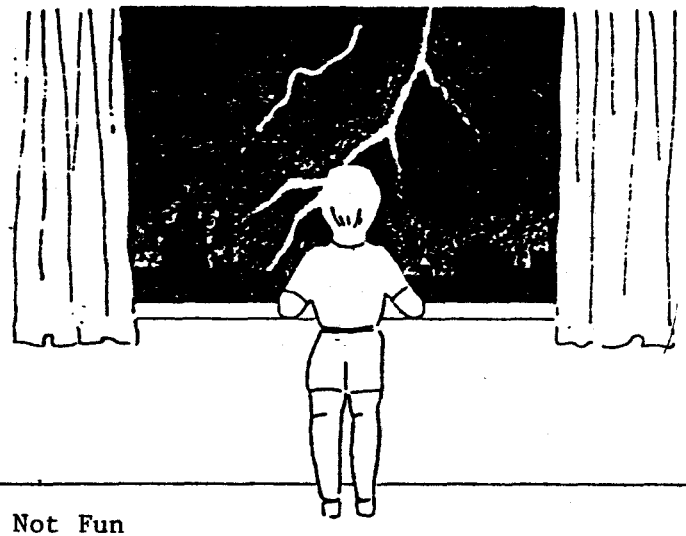
64

Not Fun

SCALE 7 - SLEEP DISTURBANCE



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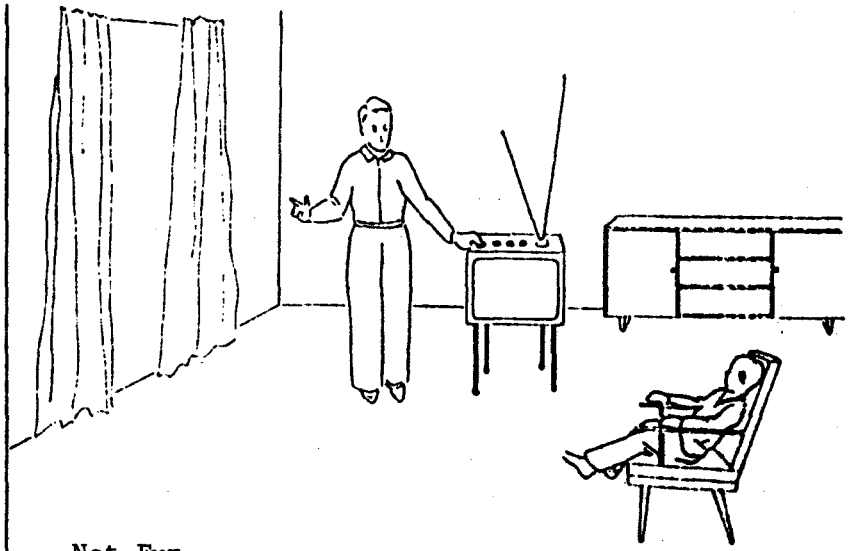

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Fun 29

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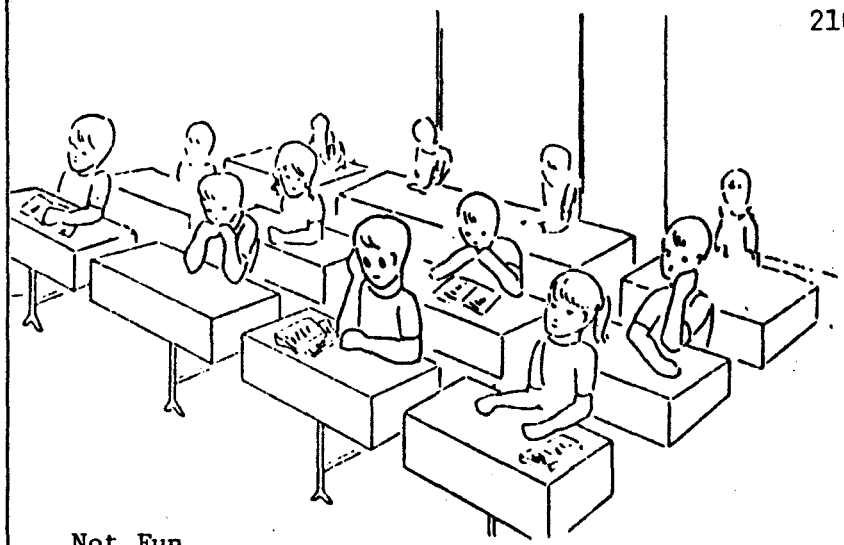

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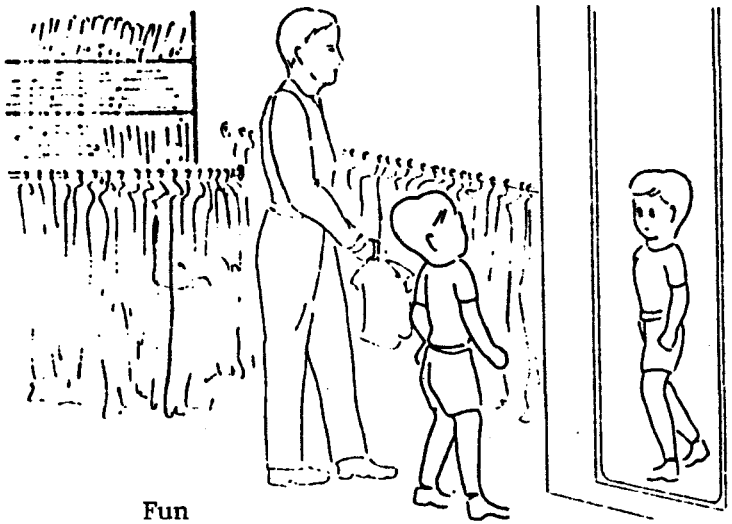
SCALE 8 - SOMATIZATION



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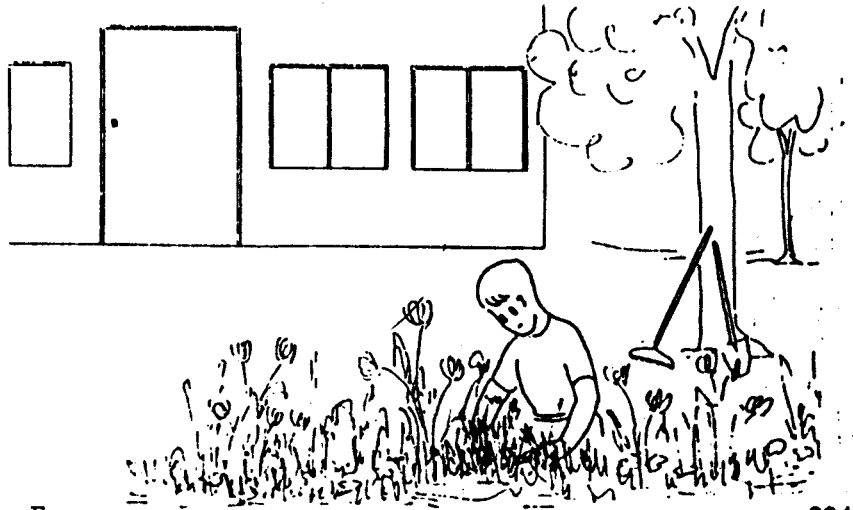

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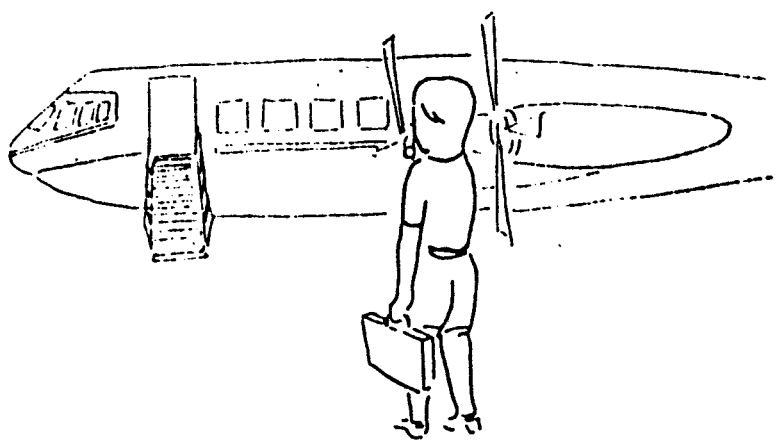
Not Fun 90



Not Fun

66

APPENDIX B

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

honest	generous	eccentric	gloomy
dishonest	tight-fisted	flattering	laughterful
self-denying	easygoing	self-centered	frivolous
selfish	mature	lively	serious
loyal	infantile	aggressive	high-strung
fickle	clear-thinking	inflexible	relaxed
fair-minded	incoherent	adaptable	impulsive
partial	independent	hostile	deliberate
reliable	dependent	friendly	emotional
undependable	wise	jealous	unemotional
persevering	foolish	ruthless	irritable
quitting	polished	kind	good-tempered
orderly	rough	shrewd	unself-controlled
disorderly	interests wide	naive	self-controlled
conscientious	interests narrow	clever	contented
practical	self-effacing	conceited	grateful
unrealistic	shows off	self-dissatisfied	thankless
worrying	argumentative	self-confident	softhearted
decisive	talkative	self-distrusting	hardhearted
indecisive	quiet	energetic	cynical
enterprising	boastful	apathetic	idealistic
shiftless	modest	enthusiastic	popular
many physical complaints	arrogant	versatile	unpopular
neurotic	humble	submissive	suspicious
depressed	pugnacious	sensitive	trustful
cheerful	peaceable	poised	impatient
moody	thoughtful (a thinker)	awkward	curious
balanced	reasonable	sophisticated	inarticulate
absent-minded	affected	shy	likes drinking
alert	natural	adventurous	religious
seclusive	logical	timid	worldly
sociable (mixes well)	aesthetic interests	aloof	rebellious
frank	courageous	affectionate	conventional
secretive	cowardly	sentimental	individualistic
		hardheaded	dreamy
		cooperative	easily bored

Comparison of the Present Adjective List with the List Devised by Hathaway and Meehl

Number of items common to both lists 125

Items eliminated from the Hathaway-Meehl list 36

conscienceless	acquisitive	assertive	sensuous
placid	languid	tough	ascetic
facing life	temperate	simple-hearted	uninquiring
evasive	dissatisfied	sociable (forward)	verbal
emotionally intemperate	intuitive	responsive	habit-bound
	physical strength and endurance	frigid	labile
exhibitionistic		home and family interests	reverent
taciturn	amorous		political (national interest)
mulish	pious	obstructive	
defensive	settling down	mirthless	wandering

Items appearing only in the present list 15

moody	self-centered	clever
shows off	dreamy	popular
quiet	easily bored	unpopular
thoughtful	lively	impatient
flattering	aggressive	religious

Total number of items in the present list 140

APPENDIX C

Adjective Clusters for Cattell's Factors

FACTOR 1:	Cyclothymia (+)	vs.	Schizothymia (-)
	idealistic, cooperative		cynical, timid, thankless
	adventurous, easygoing		hardhearted, tightfisted
	grateful, softhearted		hostile, secretive
	natural, friendly, frank		inflexible, apathetic
	adaptable, cheerful		suspicious
	enthusiastic, trustful		
	good-tempered, reasonable		
FACTOR 2:	Intelligence,general mental capacity (+)	vs.	Mental Defect (-)
	clear-thinking, clever		incoherent, impulsive
	conscientious, persevering		quitting, frivolous
	thoughtful, deliberate		unrealistic, unself-controlled
	self-controlled, wide		narrow interests, dependent
	interests, wise, mature		undependable, emotionally
	polished, independent		immature, infantile
	reliable		
FACTOR 3:	Emotionally mature, stable character (+)	vs.	Demoralized, general emotionality (-)
	practical, persevering		unrealistic, quitting
	self-controlled, self-effacing, unemotional		unself-controlled, emotional
	balanced, loyal, honest		impatient, neurotic
	mature, thoughtful		irritable, fickle, dishonest
	deliberate, content		infantile, self-centered
			shows off, frivolous
			impulsive
FACTOR 4:	Hypersensitive, infantile, sthenic emotionality (+)	vs.	Phlegmatic frustration tolerance (-)
	infantile, self-centered		mature, self-effacing
	shows off, emotional		unemotional, self-controlled
	impatient, unrealistic		submissive, modest
	unself-controlled, neurotic		self-dissatisfied
	hypochondriacal, boastful		
	assertive, conceited		
FACTOR 5:	Dominance (+)	vs.	Submissiveness (-)
	boastful, conceited		modest, self-dissatisfied
	shows off, aggressive		self-effacing, submissive
	sophisticated, talkative		sensitive, adaptable
	inflexible, hostile		friendly, easygoing
	thankless, hardhearted		grateful, softhearted

FACTOR 6:	Surgency (+)	vs.	Agitated, melancholic desurgency (-)
	cheerful, enthusiastic		apathetic, hypochondriacal
	sociable, talkative		worrying, seclusive, shy
	sentimental, trustful		aloof, quiet, sensitive
	good-tempered, reasonable		hostile, suspicious, logical
FACTOR 7:	Positive character integration (+)	vs.	Immature, dependent character (-)
	wise, mature, polished		dependent, incoherent
	independent, reliable		undependable, impulsive
	conscientious, persevering		quitting, unrealistic
	practical, balanced, loyal		neurotic, irritable
	honest, thoughtful		fickle, dishonest, frivolous
	deliberate, self-effacing		infantile, self-centered
	self-controlled		shows off, unself-controlled
FACTOR 8:	Charitable, adventurous cyclothymia (+)	vs.	Obstructive, withdrawn schizothymia (-)
	kindly, idealistic, friendly		cynical, thankless, hostile
	grateful, softhearted		hardhearted, timid, secretive
	cooperative, adventurous		tight-fisted, aloof
	natural, frank, sentimental		suspicious, quiet, narrow
	sociable, curious, trustful		interests, self-distrustful
	good-tempered, wide interests		
	energetic, self-confident		
FACTOR 9:	Sensitive, imaginative, anxious emotionality (+)	vs.	Rigid, tough poise (-)
	kind, idealistic, grateful		cynical, thankless, hostile
	friendly, softhearted		hardhearted, logical
	infantile, self-centered		mature, self-effacing
	shows off, neurotic		wise, polished, reliable
	hypochondriacal,		independent, unemotional
	dependent, incoherent		content
	undependable, emotional		
	self-dissatisfied		
FACTOR 10:	Neurasthenia (+)	vs.	Vigorous, obsessionally determined character (-)
	incoherent, impulsive		conscientious, persevering
	quitting, submissive		aggressive, sophisticated
	dependent, undependable		wise, mature, polished
	immature, absent-minded		independent, reliable, alert
	unrealistic, timid		energetic, practical, clever
	quiet, narrow interests		persevering, clear thinking
	self-distrustful		adventurous, curious, wide interests, self-confident

FACTOR 11:	Trained, socialized cultured mind (+)	vs.	Boorishness (-)
	thoughtful, wide interests		narrow interests
	conscientious, persevering		incoherent, impulsive
	aggressive, sophisticated		quitting, submissive
	aesthetic interests		cynical, timid
	independent, idealistic		talkative
	cooperative, adventurous		
	sensitive		

FACTOR 12:	Surgent cyclothymia (+)	vs.	Paranoia (-)
	cheerful, enthusiastic		apathetic, thankless
	easygoing, grateful		hardhearted, cynical
	softhearted, idealistic		timid, inflexible
	cooperative, adventurous		hostile, suspicious
	adaptable, friendly		aloof
	trustful, good-tempered		
	reasonable, kind,sociable		
	sentimental		

APPENDIX D

APPENDIX D

Dear Parent:

I am a graduate student at Loyola University working on my doctorate degree in clinical psychology. At this time, I am attempting to conduct some research with a new instrument to aid in assessing young children. This letter is to notify you that, if you have no objections, your child will be participating in this research which is being conducted at your child's school. This project is designed to standardize a relatively new tool for testing young children. This test is an important instrument in providing a means to assess some personality characteristics in young children without relying primarily on verbal material and also to do this in a quick, inexpensive way. Such a tool may be useful for quickly assessing children and understanding different personalities and temperaments from an early age. This would be beneficial in many settings and could help in intervening earlier with young children who cannot communicate their feelings or problems very well verbally. However, to be useful, the instrument first needs to be used with a normal population to see if it really does give some helpful information about individual differences in children within a normal setting.

In taking the test, your child would simply be taking a stack of pictures of children doing many different activities and dividing them into two piles, those that look like fun and those that do not. Each child will be tested together with his or her classmates. No other distinctions or separations will take place. Most children find this activity of sorting picture cards to be entertaining. Your child would not be exposed to anything harmful or upsetting. The entire process only takes about 15 to 20 minutes in total. The results will be coded and each child's identity will be kept confidential.

I have discussed this project with your principal, who agrees that there will be no risks involved to the children, and that this will not be disruptive to any school work or activities. All the classrooms from first to sixth grade at your child's school will be included. However, if you should have any objections to your child's participation in this study, you may contact the school to inform them of your objection, and your child will be excluded.

If you have any further questions, please feel free to contact me personally, during the day, at the following telephone number (762-5300). Thank you very much.

Sincerely,

E. Cristina Cox

E. Cristina Cox

Estimado padre:

Yo soy una candidata en el programa doctoral en psicologia clinica en la Universidad de Loyola. Estoy haciendo un estudio evaluando niños. Le quiero notificar que, con su permiso, su hijo o hija estara participando, con sus compañeros, en este proyecto en su escuela. Esta investigación es simplemente para estudiar un nuevo instrumento para obtener información sobre diferentes estilos de personalidad y temperamento. Con qualquier nuevo instrumento se necesita saber si funciona primero con individuos normales antes de tratar de usarlo para otras evaluaciones.

Este instrumento consiste de unas tarjetas con dibujos de niños participando en diferentes actividades. Cada niño solo necesita mirar a los dibujos y dividirlos en dos pilas, los que le gustan y los que no le gustan. No hay nada difícil en esta tarea y no hay ningunas respuestas correctas o incorrectas. Niños normalmente encuentran esta tarea entretenida. En total todo este proceso tomará aproximadamente 20 minutos. La identidad de cada niño será protegida y los resultados serán confidenciales.

Yo he discutído este proyecto con el principal de su escuela y estamos de acuerdo que esto no será desagradable y no causará ningun dano a los niños. Tambien este estudio no causará conflictos con otras actividades o trabajos escolásticos. Si usted tiene alguna razón por que no desea que su hijo o hija participe en este proyecto, por favor llame a la escuela para informarlos.

Si tiene alguna pregunta o desea mas informacion, me puede llamar directamente durante el día al número siguiente (762-5300). Muchas gracias.

Sinceramente,

Cristina Cox

APPENDIX E

APPENDIX E

?	+	−	
	54	1	honest
	2	53	dishonest
	8	46	self-denying
1	2	53	selfish
	54	1	loyal
1	8	46	fickle
	49	6	fair-minded
	33	22	partial
	54	1	reliable
	1	54	undependable
	47	8	persevering
	1	54	quitting
	54	1	orderly
	2	53	disorderly
1	52	2	conscientious
	54	1	practical
	4	51	unrealistic
	4	51	worrying
1	52	2	decisive
1	1	53	indecisive
1	52	2	enterprising
2	1	52	shiftless
	3	52	many physical complaints
	3	52	neurotic
	2	53	depressed
	55	0	cheerful
	4	51	moody
	54	1	balanced
	1	54	absent-minded
	55	0	alert
1	13	41	seclusive
	55	0	sociable (mixes well)
	49	6	frank
1	14	50	secretive

?	+	−	
	55	0	generous
2	4	49	tight-fisted
	54	1	easygoing
	54	1	mature
	2	53	infantile
	55	0	clear-thinking
1	1	53	incoherent
	51	4	independent
	12	43	dependent
	55	0	wise
	1	54	foolish
	51	4	polished
	8	47	rough
	55	0	interests wide
	6	49	interests narrow
15	14	26	self-effacing
	4	51	shows off
	20	35	argumentative
	44	11	talkative
	35	20	quiet
	8	47	boastful
	43	12	modest
	6	49	arrogant
	50	5	humble
17	32	6	pugnacious
2	52	1	peaceable
	55	0	thoughtful (a thinker)
	55	0	reasonable
	31	24	affected
	54	1	natural
	55	0	logical
10	34	11	aesthetic interests
	55	0	courageous
	2	53	cowardly

?	+	−	
	20	30	eccentric
	48	7	flattering
	2	53	self-centered
	53	2	lively
	34	21	aggressive
	1	54	inflexible
	55	0	adaptable
	1	54	hostile
	54	1	friendly
	3	52	jealous
	4	51	ruthless
	53	2	kind
	20	35	shrewd
	10	45	naive
	55	0	clever
	2	53	conceited
	4	51	self-dissatisfied
	55	0	self-confident
	1	54	self-distrusting
	55	0	energetic
1	14	40	apathetic
	55	0	enthusiastic
	53	2	versatile
2	6	47	submissive
	51	4	sensitive
1	52	2	poised
	3	52	awkward
	52	3	sophisticated
	24	31	shy
	54	1	adventurous
	14	41	timid
2	9	44	aloof
	55	0	affectionate
	55	0	sentimental
	6	49	hardheaded
	55	0	cooperative

?	+	−	
	0	55	gloomy
	52	3	laughterful
1	21	33	frivolous
	44	11	serious
1	10	44	high-strung
	54	1	relaxed
	26	29	impulsive
	23	32	deliberate
	50	5	emotional
	4	51	unemotional
	1	54	irritable
	55	0	good-tempered
	0	55	unself-controlled
	54	1	self-controlled
	52	3	contented
	53	2	grateful
	7	48	thankless
	44	11	softhearted
	5	50	hardhearted
1	3	51	cynical
	41	14	idealistic
	53	2	popular
	6	49	unpopular
	13	42	suspicious
	53	2	trustful
	4	51	impatient
	51	4	curious
2	6	47	inarticulate
	28	27	likes drinking
	46	9	religious
	49	6	worldly
	12	43	rebellious
	36	17	conventional
	52	3	individualistic
	39	16	dreamy
	10	45	easily bored

KEY: ? DON'T KNOW
+ POSITIVE
− NEGATIVE

APPENDIX F

MATURITY - INHIBITION

Code Type 3 - 5 n = 7

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

5	honest ////		generous /		eccentric		gloomy /
	dishonest		tight-fisted		flattering		laughterful /
	self-denying		easygoing //		self-centered /		frivolous
	selfish	3	mature ///	3	lively ///		serious //
	loyal //		infantile		aggressive //		high-strung
	fickle		clear-thinking //		inflexible		relaxed ///
4	fair-minded ////		incoherent		adaptable //		impulsive
	partial		independent //		hostile		deliberate ///
4	reliable ////	3	dependent ///	4	friendly ////		emotional
	undependable /		wise		jealous		unemotional
	persevering //		foolish		ruthless		irritable
	quitting /		polished /		kind //	5	good-tempered /////
	orderly //		rough		shrewd		unself-controlled /
	disorderly /		interests wide //		naive //		self-controlled //
	conscientious /		interests nar- / row		clever /		contented /
4	practical ////		self-effacing		conceited		grateful //
	unrealistic		shows off		self-dissatisfied		thankless
	worrying /		argumentative		self-confident //		softhearted /
	decisive //	3	talkative ///		self-distrusting		hardhearted
	indecisive /	4	quiet ////	3	energetic ///		cynical
	enterprising /		boastful		apathetic /		idealistic
	shiftless	3	modest ///		enthusiastic //		popular ///
	many physical / complaints		arrogant		versatile //		unpopular /
	neurotic		humble //		submissive /		suspicious
	depressed /		pugnacious		sensitive /		trustful ///
	cheerful //		peaceable //		poised /		impatient
	moody /		thoughtful (a / thinker)		awkward /		curious
4	balanced ////	3	reasonable ///		sophisticated		inarticulate
	absent-minded /		affected		shy /		likes drinking
	alert //	3	natural ///		adventurous //		religious /
	seclusive //		logical		timid /		worldly
	sociable (mixes // well)		aesthetic interests /		aloof		rebellious
	frank		courageous /		affectionate /		conventional /
	secretive		cowardly		sentimental		individualistic /
					hardheaded		dreamy /
				4	cooperative ////		easily bored

2 Males, School 1 (Public, suburban)

2 Females, School 1

2 Males, School 2 (Private Catholic, urban)

1 Females, School 2

MATURITY - SLEEP DISTURBANCE

Code Type 3 - 7 n = 14

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

12 honest	generous	eccentric	gloomy
dishonest	tight-fisted	flattering	5 laughterful
self-denying	easygoing	self-centered	frivolous
selfish	mature	lively	serious
loyal	infantile	aggressive	high-strung
fickle	clear-thinking	inflexible	relaxed
7 fair-minded	incoherent	adaptable	impulsive
partial	independent	hostile	deliberate
8 reliable	dependent	12 friendly	emotional
undependable	wise	jealous	unemotional
persevering	foolish	ruthless	irritable
quitting	polished	kind	7 good-tempered
6 orderly	rough	shrewd	unself-controlled
disorderly	interests wide	naive	self-controlled
5 conscientious	interests nar-	clever	contented
practical	row	conceited	grateful
unrealistic	self-effacing	self-dissatisfied	thankless
worrying	shows off	6 self-confident	softhearted
decisive	argumentative	self-distrusting	hardhearted
indecisive	talkative	energetic	cynical
enterprising	quiet	apathetic	idealistic
shiftless	boastful	5 enthusiastic	7 popular
many physical	6 modest	versatile	unpopular
complaints	arrogant	submissive	suspicious
neurotic	humble	sensitive	trustful
depressed	pugnacious	poised	impatient
9 cheerful	peaceable	awkward	curious
moody	thoughtful (a	sophisticated	inarticulate
balanced	thinker)	shy	likes drinking
absent-minded	reasonable	adventurous	religious
5 alert	affected	timid	worldly
seclusive	natural	aloof	rebellious
8 sociable (mixes	logical	affectionate	conventional
well)	aesthetic interests	sentimental	individualistic
frank	courageous	hardheaded	dreamy
secretive	cowardly	9 cooperative	easily bored

6 Males, School 1

4 Females, School 1

1 Male, School 2

3 Females, School 2

AGGRESSION - ACTIVITY LEVEL

Code Type 4 - 6 n = 13

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

5	honest ///		generous /		eccentric		gloomy
	dishonest ////		tight-fisted /		flattering		laughterful /
	self-denying /		easygoing ////		self-centered /		frivolous //
	selfish //		mature //	7	lively ///////		serious /
	loyal //		infantile //		aggressive /		high-strung //
	fickle /		clear-thinking /		inflexible		relaxed //
	fair-minded ///		incoherent /		adaptable ///	3	impulsive ///
	partial /		independent //		hostile /		deliberate
	reliable ////		dependent //	7	friendly ///////	5	emotional /////
	undependable //		wise /		jealous //		unemotional
	persevering		foolish //		ruthless		irritable /
	quitting /		polished		kind //	6	good-tempered //////
	orderly /		rough //		shrewd /		unself-controlled /
	disorderly ///		interests wide ///		naive /		self-controlled /
	conscientious /		interests nar-row		clever /		contented /
	practical //				conceited		grateful //
	unrealistic		self-effacing	3	self-dissatisfied ///		thankless
	worrying //		shows off ///		self-confident /		softhearted
	decisive //		argumentative //		self-distrusting		hardhearted
	indecisive //	8	talkative ///////		energetic //		cynical
	enterprising /		quiet /		apathetic		idealistic
	shiftless	4	boastful ////		enthusiastic //		popular /
	many physical complaints		modest		versatile		unpopular /
			arrogant /		submissive /		suspicious /
	neurotic		humble /		sensitive ///		trustful /
	depressed /		pugnacious		poised		impatient /
4	cheerful ////		peaceable /		awkward		curious ////
	moody ///		thoughtful (a / thinker)		sophisticated		inarticulate
4	balanced ////				shy		likes drinking
	absent-minded /		reasonable		adventurous //		religious
	alert //		affected		timid		worldly /
	seclusive		natural /		aloof		rebellious /
4	sociable (mixes well) ////		logical		affectionate /		conventional /
			aesthetic interests		sentimental /		individualistic /
	frank		courageous /	3	hardheaded ///		dreamy /
	secretive /		cowardly /	9	cooperative /////////		easily bored /

4 Males, School 1
9 Males, School 2

INHIBITION - ACTIVITY LEVEL

Code Type 5 - 6 n = 15

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

7 honest /////// | generous /// | eccentric | gloomy
dishonest /// | tight-fisted | flattering | laughterful ///
self-denying | 5 easygoing ///// | self-centered / | frivolous /
selfish | mature /// | lively // | 4 serious ////
loyal /// | infantile // | aggressive /// | high-strung /
fickle / | clear-thinking /// | inflexible | relaxed //
6 fair-minded ////// | incoherent | 5 adaptable ///// | impulsive /
partial | independent /// | hostile | deliberate //
reliable /// | dependent / | 9 friendly ////////// | emotional
undependable / | wise / | jealous | unemotional
persevering /// | foolish // | ruthless | irritable /
quitting / | polished | kind //// | good-tempered ////
5 orderly ///// | rough / | shrewd | unself-controlled /
disorderly /// | interests wide | naive | self-controlled ////
5 conscientious ///// | interests nar-// row | clever / | contented /
5 practical ///// | | conceited | grateful //
unrealistic | self-effacing | self-dissatisfied | thankless
worrying / | shows off // | self-confident // | softhearted /
2 decisive // | argumentative / | self-distrusting | hardhearted
3 indecisive /// | 4 talkative //// | energetic //// | cynical
enterprising | 5 quiet ///// | apathetic / | idealistic
shiftless | boastful // | enthusiastic / | popular ///
many physical / complaints | modest / | versatile | unpopular
| arrogant | submissive / | suspicious /
neurotic | humble / | sensitive /// | trustful ///
depressed | pugnacious | poised // | impatient /
cheerful //// | peaceable /// | awkward | curious /
moody | thoughtful (a // thinker) | sophisticated | 2 inarticulate //
balanced // | | shy /// | likes drinking
absent-minded / | reasonable /// | adventurous /// | religious
alert /// | affected | timid // | worldly
seclusive / | natural /// | aloof | rebellious /
sociable (mixes /// well) | logical | affectionate | conventional /
| aesthetic interests / | sentimental | individualistic
frank / | courageous | hardheaded | dreamy //
secretive | cowardly / | cooperative /// | 3 easily bored ///

6 Males, School 1
2 Females, School 1
5 Males, School 2
2 Females, School 2

INHIBITION - SLEEP DISTURBANCE

Code Type 5 - 7 n = 8

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

5 honest ////	generous /	eccentric	gloomy
dishonest /	tight-fisted	fluttering	laughterful
self-denying /	4 easygoing ////	self-centered /	frivolous
selfish	mature /	lively	serious /
loyal ///	infantile /	aggressive /	high-strung
fickle	clear-thinking	inflexible	relaxed //
fair-minded //	incoherent /	adaptable	impulsive
partial /	independent //	hostile /	deliberate
reliable ///	dependent	friendly ///	emotional
undependable	wise	jealous	unemotional
persevering /	foolish	ruthless	irritable
quitting /	polished /	kind //	good-tempered //
orderly //	rough /	shrewd	unself-controlled
disorderly /	interests wide	naive	self-controlled //
conscientious ///	interests narrow /	clever	contented
practical		conceited	grateful
unrealistic	self-effacing	self-dissatisfied	thankless
worrying	shows off	self-confident /	softhearted /
decisive	argumentative /	self-distrusting	hardhearted
indecisive	talkative //	energetic	cynical
enterprising /	quiet //	apathetic /	idealistic
shiftless	buoyant	enthusiastic	popular /
many physical complaints	modest /	versatile	unpopular /
	arrogant	2 submissive //	suspicious
neurotic	humble	sensitive /	trustful /
depressed	pugnacious	poised	impatient
cheerful	peaceable	awkward	curious /
3 moody ///	thoughtful (a thinker) //	sophisticated	inarticulate
2 balanced //		shy /	likes drinking
absent-minded //	reasonable	adventurous	religious
alert	affected	timid	worldly
seclusive	natural	aloof	rebellious /
sociable (mixes well) //	logical /	affectionate //	conventional
	aesthetic interests	sentimental /	individualistic /
frank /	courageous	hardheaded	dreamy
secretive	cowardly	cooperative ///	easily bored

2 Males, School 1
1 Female, School 1
3 Males, School 2
2 Females, School 2

INHIBITION - SOMATIZATION

Code Type 5 - 8 n = 8

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

5 honest ////	4 generous ////	eccentric	gloomy
dishonest //	tight-fisted /	flattering	laughterful ///
self-denying /	4 easygoing ///	self-centered /	frivolous
selfish //	mature /	lively //	serious /
loyal ///	infantile //	aggressive	high-strung /
fickle	clear-thinking //	inflexible	relaxed ///
4 fair-minded ////	incoherent	adaptable /	impulsive
partial /	independent ///	hostile //	deliberate /
reliable ///	dependent /	5 friendly /////	emotional //
undependable /	wise //	jealous /	unemotional
persevering	foolish //	ruthless	irritable /
quitting //	polished	kind ///	4 good-tempered ////
orderly //	rough //	shrewd /	unself-controlled /
disorderly ///	interests wide ///	naive	self-controlled
conscientious ///	interests nar- row	clever	contented ///
practical ///	self-effacing	conceited	4 grateful ////
unrealistic	shows off ///	self-dissatisfied	thankless
worrying /	argumentative /	self-confident /	softhearted ///
decisive	4 talkative ////	self-distrusting	hardhearted /
indecisive /	3 quiet ///	energetic /	cynical /
enterprising /	boastful /	apathetic /	idealistic
shiftless	modest //	enthusiastic	popular ///
many physical complaints	arrogant /	versatile	unpopular //
neurotic	humble //	submissive	suspicious /
depressed /	pugnacious	sensitive //	trustful ///
5 cheerful ////	peaceable //	poised //	impatient /
moody /	thoughtful (a // thinker)	awkward	curious ///
balanced //	reasonable	sophisticated	inarticulate
absent-minded	affected /	shy //	likes drinking
4 alert ////	natural //	adventurous //	religious
seclusive	logical	timid	worldly
sociable (mixes // well)	aesthetic interests /	aloof	rebellious //
frank	courageous	affectionate //	conventional
secretive /	cowardly	sentimental ///	individualistic /
		hardheaded /	dreamy /
		6 cooperative /////	easily bored /

1 Male, School 1
1 Female, School 1
4 Males, School 2
2 Females, School 2

ACTIVITY LEVEL - SOMATIZATION

Code Type 6 - 8 n = 19

Circle the words in this list that you feel characterize the person named above. Do not debate too long over any particular word; you may check as few or as many words as seem appropriate.

8 honest	generous	eccentric	gloomy
dishonest	tight-fisted	flattering	laughterful
self-denying	easygoing	self-centered	frivolous
selfish	mature	lively	serious
loyal	infantile	aggressive	high-strung
fickle	clear-thinking	inflexible	relaxed
5 fair-minded	incoherent	5 adaptable	impulsive
partial	independent	hostile	deliberate
reliable	dependent	9 friendly	emotional
undependable	wise	jealous	unemotional
persevering	foolish	ruthless	irritable
quitting	polished	kind	good-tempered
5 orderly	rough	shrewd	unself-controlled
disorderly	interests wide	naive	self-controlled
conscientious	interests nar-row	clever	contented
practical	self-effacing	conceited	grateful
2 unrealistic	shows off	self-dissatisfied	thankless
worrying	argumentative	self-confident	softhearted
decisive	9 talkative	self-distrusting	hardhearted
indecisive	quiet	energetic	cynical
enterprising	boastful	apathetic	idealistic
shiftless	modest	enthusiastic	popular
many physical complaints	arrogant	versatile	unpopular
neurotic	humble	submissive	suspicious
depressed	pugnacious	sensitive	trustful
8 cheerful	peaceable	poised	impatient
5 moody	thoughtful (a thinker)	awkward	6 curious
3 balanced	reasonable	sophisticated	inarticulate
absent-minded	affected	shy	likes drinking
alert	natural	adventurous	religious
seclusive	logical	6 timid	worldly
7 sociable (mixes well)	aesthetic interests	aloof	rebellious
frank	courageous	affectionate	conventional
secretive	cowardly	sentimental	individualistic
		hardheaded	4 dreamy
		5 cooperative	easily bored

3 Males, School 1
5 Females, School 1
10 Males, School 2
1 Female, School 2

APPENDIX G

APPENDIX G

INTER-SCALE CORRELATIONS

Boys T Score Intercorrelation Matrix (N = 1917)

Scale	2	3	4	5	6	7	8
1	.17	-.31	.05	-.40	-.04	-.54	-.12
2		.33	-.33	-.31	-.41	.22	-.48
3			-.64	.18	-.55	.60	-.65
4				-.16	.44	-.38	.35
5					.20	.14	.24
6						-.33	.57
7							-.51

Girls T Score Intercorrelation Matrix (N = 1960)

Scale	2	3	4	5	6	7	8
1	-.04	-.37	.18	-.46	-.04	-.52	.18
2		.05	-.07	-.36	-.28	.08	-.32
3			-.60	.28	-.40	.59	-.56
4				-.18	.38	-.41	.28
5					.30	.21	.18
6						-.28	.49
7							-.47

Scale T-Score Intercorrelations for Clinic Boys (N = 404)

Scale	2	3	4	5	6	7	8
1	.23	-.36	.03	-.47	-.07	-.54	.12
2		.39	-.36	-.26	-.44	.20	-.47
3			-.64	.27	-.50	.59	-.59
4				-.28	.38	-.33	.25
5					.19	.22	.19
6						-.30	.54
7							-.48

APPROVAL SHEET

The thesis submitted by Elida Cristina Cox has been read and approved by the following committee:

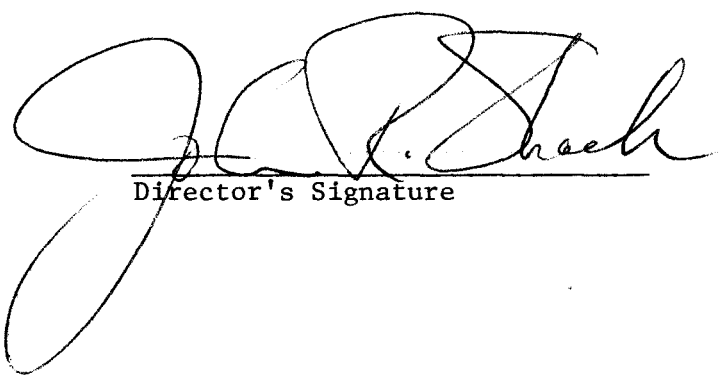
Dr. John Shack, Director
Associate Professor, Psychology, Loyola

Dr. J. Clifford Kaspar
Associate Professor, Psychology, Loyola

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

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

3/15/84
Date



Director's Signature