Final Report--Objective C, Tasks 2 and 3   *December 1987*

REVIEW OF THE PERSONALITY ASSESSMENT SYSTEM

By: NEVIN D. LANTZ

Prepared for:

PETER J. McNELIS, DSW
CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE

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SRI Project 1291

Approved by:

MURRAY J. BARON, *Director*
Geoscience and Engineering Center

ABSTRACT

During FY 1987, we conducted a thorough review of the Personality Assessment System (PAS) to gauge its continued usefulness as a screening and selection instrument and a personality descriptor for subjects in the psychoenergetics project. Data for this review came from published articles where the PAS was reviewed or used as a research tool, attendance at the annual PAS conference, and extensive interviews with several of the principal developers.

The PAS is a multifactored personality assessment instrument that has been evolving over the past 30 years using behavioral measures as raw data for making inferences and predictions about personality and behavior. The early development work was conducted by John Gittinger and his associates in a private firm that served clients in business and government. During the last 20 years, the test has begun to make small inroads into the academic environment, but it remains obscure and controversial.

This report traces the development of the PAS, gives an overview of the theory and methods of the test, and examines some of the problems connected with its use in the psychoenergetics project. It concludes that use of the PAS as a descriptive tool has continuing merit but that using the test for mass screening and mass selection of candidates for psychoenergetic training is not feasible at this time.

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I INTRODUCTION

A. Overview

1. Rationale for Personality Testing

Psychoenergetic research is hampered by the difficulty of finding able and cooperative talent for experimental use. One obvious solution, the development of a training program, requires a set of procedures that optimizes the selection of potential trainees. Personality testing is an example of one procedure that has produced successful screening and selection results in a variety of contexts. Accordingly, there have been numerous attempts in the experimental investigation of psychic phenomena to relate personality factors to psychoenergetic functioning.

An almost overwhelming difficulty is encountered in this effort. On the one hand is the low reliability of scores on psychic tasks noted by Palmer[1] * in his review of the personality and psi literature. Palmer estimates the average Psi reliability to be in the neighborhood of +0.30 and extremely variable from experiment to experiment. On the other hand is the variable reliability of the self-report measures commonly used to assess personality traits. This implies that correlations between psychic task scores and personality variables will be small and unstable, not an optimum situation for constructing a screening instrument. Indeed, a review of the literature shows that although extroverted, well adjusted people who believe in ESP tend to score higher on psychic tasks, the correlations are, as expected, low and unstable.

In 1983, the psychoenergetic research team at SRI International became confident enough in the stability of the remote viewing phenomenon to begin the task of assessing the personalities of remote viewers. The Personality Assessment System (PAS) was selected as the potential test instrument.   Its appeal was threefold: (1) the system is a comprehensive multifactored personality theory; (2) it makes useful discriminations among individuals in normal populations; and (3) it uses performance scores as raw data instead of self-report measures. In addition to providing detailed descriptions of psychic personalities, it was hoped the system would

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* References are listed at the end of this report.

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prove useful in predicting latent psychic ability as a first step toward selecting promising candidates for psychic training.

In FY 1984, a pilot study was conducted using the PAS to test a group of people who in previous work had shown significant evidence of remote viewing ability. Clustering was found in several distinct PAS reference groups. Four of these groups accounted for 8 out of 8 excellent remote viewers as well as 10 out of 17 superior viewers. These encouraging results led to further research and some preliminary attempts to predict remote viewing performance in a group of novice viewers.

During FY 1986 and FY 1987, Dr. David Saunders of MARS Measurement Associates, Pennington, New Jersey, was retained to consult in the use of the PAS. Dr. Saunders has been associated with the development of the PAS for over thirty years and, in addition to research supporting PAS constructs, has added two important refinements: (1) the fourth dimension, and (2) the concept of reference groups (both are discussed below). Using the PAS, Dr. Saunders has tested over 125 persons in our subject pool, isolated several personality characteristics of psychic individuals,[2] and successfully predicted the performance of a group of novice remote viewers (see Appendix B, Part B).

2. Objective C, Task 3--Review the Personality Assessment System

The PAS has not, however, received wide recognition in mainstream psychology. In fact, most psychologists are unfamiliar with it.[3] The recent development of a fourth personality dimension and the reference group concept have required extensive additions to the empirical data base. In addition, critical comments from Dr. Kiernan's review[4] regarding the validity of inferences drawn from the PAS necessitated a comprehensive review of the PAS, to understand the test's strengths and weaknesses and to evaluate its continued usefulness to the psychoenergetics project. To meet the requirements of this task, we reviewed pertinent literature, attended the 1987 PAS conference in Nelsonville, Ohio, and conducted extensive interviews with principals involved in developing the test.

B. Brief History of the PAS

The PAS was developed in the late 1940s by John Gittinger, a clinical psychologist. His efforts paralleled other, mostly unsuccessful, attempts to derive personality information with diagnostic utility from intelligence tests like the Wechsler Adult Intelligence Scales (WAIS).[3] One reason independent investigators failed to replicate promising findings was the lack of agreement among clinicians as to the criteria for defining the pathologies involved. Gittinger's

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the publications of Krauskopf and Davis and their graduate students in the testing and counseling center at the University of Missouri, by the continuing research of Saunders (MARS Measurements Associates), and Thetford and Schucman (Columbia University), the teaching of the system by Robert MacLachlan (American International University), the use of the PAS as the primary test for student assessment and placement at the Hocking Technical College (Nelsonville, Ohio) and the recent research interest shown by Daryl Bem (Cornell University). The test is also featured prominently in Matarazzo's *Wechsler's Measurement and Appraisal of Adult Intelligence*.[3] In addition, a nonprofit foundation, which publishes a quarterly journal, has been established to promote a wider use of the test.

The following review of PAS theory and measurement is presented as a means of illuminating some of the challenges encountered in the application of an evolving theory and measurement of individual differences to the novel problem of selecting individuals with latent psychic ability.

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II DESCRIPTION OF THE PAS

A. PAS Theory

The purpose of any assessment is to make predictions about aspects of an individual's behavior that cannot be readily observed. Because of its power and scope, the PAS has the potential to answer much more than the simple question of whether or not an individual has psychic talent. It could potentially predict: (1) the type of psychic task on which a given individual might perform best; (2) individuals with natural talent versus those who are trainable; (3) the type of learning environment best suited to potential trainees; (4) the most efficient training method for a given person; and (5) what situations might prove stressful and thus reduce psychic functioning.

To show clearly how such predictions are possible, we present a short introduction to PAS theory and measurement. As noted, PAS is based on an empirical examination of thousands of WAIS records and case histories. The heart of PAS theory and practice is described in a *Journal of Clinical Psychology* monograph published in 1973.[5] The following summary relies heavily on concepts presented in the monograph.

1. Personality Dimensions

The PAS regards personality structure and functioning in terms of highly complex patterns of interaction among a person's primary response style or primitive personality features, the environment in which development occurs, and the compensations and modifications that are acquired in response. The major determinants of behavior are initial or primary endowment and two levels of adaptation that result from the interaction of the individual with the environment. Theoretically, adult personality structure and function must be understood in light of the interaction of these levels since no aspect is meaningful apart from the others.

The biological urge to respond to the external environment and the resulting consequences make up the fundamental dynamics of the PAS. PAS assumes three levels of adjustment. The first is the primitive level constituted by sets of primary abilities corresponding to three theoretical dimensions of behavior discussed below. The second level, the basic or attained structure, is a function of compensations to the primitive tendencies through interaction

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with the environment and is achieved as a child matures to adolescence. Finally, through further modifications of behavior, a person attains, at adulthood, a surface or contact level. Again, these dimensions and levels are not discrete entities. Rather their interaction is felt to be far more important in determining behavior than is any component taken alone.

The three major dimensions of primary or primitive personality identified by PAS theory are labeled: Externalizer-Internalizer (E-I), Regulated-Flexible (R-F), and Role Adaptive-Role Uniform (A-U). They are primary in that from birth onward they determine the quality and direction of a person's selective tendencies, both in awareness and response. They establish the general lines along which a person is predisposed to develop, and limit the ability to adjust by making some orientations alien. The original, primitive personality structure defines the preferred type of reactivity. From the very beginning of life, how a person responds as well as to what he responds, will be essentially in accord with this fundamental pattern.

a. The Externalizer-Internalizer (E-I) Dimension

The E-I dimension is referred to as the intellectual variable because it is associated with a person's ideational or cognitive style. This dimension is concerned with the quality and content of an individual's mental activity as well as the ways in which mental activities are used. The Externalizer and the Internalizer are the extremes of the dimension and are opposite one another with regard to the stimuli to which they are sensitive and the types of responses that are evoked, the satisfactions they seek and the way they seek them, the major sources of threat and the quality of the resulting defensiveness, the course and direction of acquired adjustments, proneness to mental and physical malfunction, and the quality of the inter-, intra-, and impersonal environment that facilitates or hampers optimal functioning.

The Externalizer is an active individual, more interested in doing than in thinking. For the E, the world is real and experience is real. He is practical, concrete, and works by trial and error. He directs his energies outward, seeking involvement with others. He is, psychologically speaking, perceptually dominant, environmentally dependent, and more responsive to external than internal cues. He must exert considerable energy when compelled to deal with ideas, to be self-sufficient, or to control the natural inclination toward activity and involvement with others.

A primitive Internalizer is the opposite. For him ideas are real. He is fond of symbols and abstractions and tends to shun the practical, the specific, the concrete. His emotions are directed inward, and his feelings--to the casual observer--appear masked and obscure. They are in fact highly personal feelings and he guards them closely. He is primarily

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of internal stimuli. On the other hand the EF is aware of and responsive to a wide range of external stimuli.

c. The Role Adaptive-Role Uniform (A-U) Dimension

The A-U dimension is often called the *social* dimension since it refers to an individual's skill in meeting the social demands required by culture. This dimension is more difficult to grasp because in addition to having important interactions with the other dimensions, it has a dual aspect. On the one hand, it represents the overall effect or image one projects in a social setting. On the other hand, it helps to determine behavior, for how one continues to act in a social setting is determined to a great extent by the responses one receives to the initial projected image.

The A individual is magnetic, charming, and captivating. He moves easily in a variety of social situations and has the knack of expressing conventional or proper feelings whether or not they happen to be his true feelings. He is seldom anxious in social situations but is quite capable of showing anxiety if the occasion calls for it. Major problems stem from the highly favorable first impression he creates. Having oversold himself without really trying, he is then faced with the task of living up to the high expectations his social versatility has engendered. It is his fate to be accepted wholeheartedly at first, and later when he fails to meet expectations, to be misunderstood and over-punished.

At the other extreme the U individual is socially inept and at best able to handle only a few roles. These few roles are applied to whatever situations he encounters whether or not they happen to fit. He is more likely to be rejected than accepted, and the first impression he makes is usually unfavorable unless he is in a situation appropriate to a role he knows. Often he is overlooked at first and later accepted for specific nonsocial skills.

As with the R-F dimension, the interactions of the A-U dimension with other primitive dimensions are extremely important. For example, the ability to shift roles easily is a talent of the primitive A and his consequent social acceptance may interact positively with the E need for contact with the environment. A different problem arises for the IA as ready social acceptance may run counter to his need to be left alone. In the same way an RA may attract others initially but his self-centeredness will ultimately show through his A tendencies. On the other hand the FA may begin well but his sensitivity and inferiority feelings may result in rejection and social failure. The U dimension has a similar set of unique interactions with the other dimensions.

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d. Compensation and Modification

The need to adapt to environmentally imposed situations requires adjustment to each of the primitive tendencies. The first of these adjustments known as *compensation*, refers to adaptations that happen during childhood. Compensation is defined as the movement toward the attributes of the opposite primitive tendency. For example, a primitive E can learn to be more passive, more ideationally aware and more self-sufficient. Compensatory activities are acquired tendencies, externally induced and environmentally determined. Obviously some compensation is required for adequate functioning. The strength of the original primitive tendencies coupled with the degree of compensation determines whether a maladaptive state results. When compensation has been achieved, usually by adolescence, the person is said to have reached the basic level of personality development. This adjustment level is considered relatively stable and not vulnerable to stress.

Modification, the second level of personality adjustment, interacts with the basic level of each dimension to form the surface level of personality structure and is achieved during the later stages of development. This is the level associated with the first impressions of a particular adult personality. It is a relatively unstable level and particularly vulnerable to stress.

Because of compensations and later modifications, the personality may follow any of several general routes from each original primitive tendency. At one extreme, an individual may fail to develop either compensating or modifying tendencies in one or more of the three primitive dimensions. Such a condition indicates a narrow restricted psychological set limiting the range of responsiveness and efficiency. At the other extreme is the individual who has reacted against one or more of his original tendencies first through compensation and later through modification. This combination is likely to produce repression. Between these two extremes, a variety of adjustments are possible representing a person's attempts to compromise with environmental pressures rather than avoid them entirely or succumb to them completely.

2. Measurement Using the WAIS

Although the PAS theory can stand alone or be used in conjunction with a variety of tests and behavioral observations, the most common method for measurement used in practice is a system of deriving difference scores from WAIS subtest data. The deviation of scores on ten subtests (excluding vocabulary) from an empirically derived Normal Level (NL) is the heart of the measuring process. NL is theorized to be the innate core of intelligence present at birth or, in WAIS terms, an estimate of the standard score a person would receive on the subtests if all personality influences were eliminated. It can be approximated by averaging the subtest scaled

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scores, although in practice it is derived using a complicated set of procedures arrived at empirically by Gittinger and his associates and outlined in Chapter 5 of their monograph.[5]

Once the NL has been determined, a person's primitive level of orientation on each of the three dimensions (E–I, R–F, A–U) is obtained from the difference between NL and the scaled score on three WAIS subtests. Position on the E–I dimension is reflected by the difference score on *Digit Span*. Similarly, the R–F position is assessed by deviation analysis of the *Block Design* score and position on the A–U dimension is determined by derivation of the difference score on *Picture Arrangement*.

Digit Span scores below NL are associated with externalizing tendencies whereas scores above NL are assumed to be produced because of internalizing tendencies. A person can handle the Digit Span subtest in one of two ways. The first approach is to treat the digits as though they were located somewhere in the environment such as on the wall, or associated with actual objects in the environment. This is the approach used by the E individual who turns naturally to the environment for assistance in problem solving. The E is not very successful with this method because it tends to restrict recall, thus lowering the Digit Span score. Another Externalizer characteristic, the tendency to see the digits as separate units (without grouping them to facilitate recall) lowers performance still further. In addition, since the digits themselves are abstractions, they represent an area relatively alien to the E. Beyond this, the test situation––face-to-face administration of the subtest––produces interference because of the need to respond to the examiner. Thus, the strength of the externalized tendency is indicated by how poorly the E performs on the Digit Span.

The second way a person can handle Digit Span is to arrange the numbers so as to make them more meaningful. This is essentially an abstract, internalized process which does not involve the external environment. Thus it is the natural approach of the I who tends to group digits in a manner that facilitates recall. Also, because the I has no vital need for interpersonal approval, the test situation is not disturbing. These factors combine to produce a relatively high Digit Span score, indicating the strength of the I tendency.

The primitive position on the R–F dimension is derived from the score received on Block Design. Again, this task has two approaches corresponding to the problem–solving methods inherent in primitive Regulation and primitive Flexibility. The R operates on the premise that there is only one solution to each Block Design problem and moves deliberately and systematically to find it. This involves breaking down each design into its component parts, thus facilitating the accurate reproduction of the individual units that make up the total design. The R is not readily distracted nor is concentration on minute details irksome. Relationship of parts to

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the whole or deriving meaning from an understanding of the whole is not important. Focus on a narrow, specific aspect of the problem allows the R to reproduce the designs by accurate imitation of their elements. This special combination of abilities is so well suited to the Block Design task that the strength of the R tendency can be obtained on the basis of how well the task is performed.

The F is less certain that there is only one way to do the task. The design is responded to as a totality, with meaning ascribed to the relationship of parts to the whole. Attention to detail is irritating and the discrete units of the design are ignored. A wide range of perception not only prevents focus on the task but makes the F regard the design as only one aspect of the total test situation. Thus the F is distractable and finds concentration difficult. This combination of attributes is so poorly suited to good performance on Block Design that the strength of the F tendency is measured by poor performance relative to Normal Level.

The Picture Arrangement subtest is the indicator of a person's primitive tendency with regard to the A–U dimension. Like Digit Span and Block Design, Picture Arrangement presents a series of problems that can be handled in either of two ways. The two approaches reflect the differences in social perception that characterize Role Adaptivity and Role Uniformity. Since this subtest requires insight into human social interaction, a high score is obtained by the A individual whose high degree of interpersonal awareness, appreciation of the appropriate situational behavior, and ability to handle unfamiliar social situations helps to rapidly identify the correct sequence of the pictures.

The U individual, lacking social awareness, regards the items apart from the implied social context and thus has difficulty ordering them correctly. In addition, limited social versatility makes the unfamiliar situations threatening and the anxiety thus aroused depresses the Picture Arrangement score. Low scores on this subtest are associated with the U pole of this variable.

Six of the remaining seven subtests are used to measure the presence or absence of the compensating and modifying tendencies of each of the primitive dimensions. The *Arithmetic* subtest measures compensatory tendencies at the basic level for the E–I dimension while the *Information* subtest measures the strength of modifying tendencies at the surface level. On the R–F dimension, the *Similarities* subtest of the WAIS reflects a person's basic adjustment and the *Comprehension* subtest indicates the nature of modification at the surface level. And finally, on the A–U dimension, the *Picture Completion* items indicate the presence or absence of compensation while *Object Assembly* is the measure of modification.

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The remaining subtest, *Digit Symbol*, is used to measure a concept called Act Level. This concept is related to the overall quality of functioning including drive, motivat and energy output and is integrated into the fourth dimension discussed in the following secti

B. The Fourth Dimension: Goal Oriented–Task Oriented (G–T)

The development of a fourth personality dimension came about through the recognition by Saunders that the WAIS subtests were a "harmful limitation" of the power of theory.[7] Along with the addition of items to several of the WAIS subtests, Saunders event added the *Color Naming Test* (a variation of the Stroop Test) and a *Time Estimation Te* produce an extended WAIS. Combined with the Digit Symbol subtest (originally use Gittinger to measure Activity Level) a fourth personality dimension evolved which measure strength of coping behavior, problem–solving style, time orientation, and stress tolerance.[8] primitive level indicator is the Color Naming subtest while the basic and contact level indic are Digit Symbol and Time Estimation, respectively.

The fourth dimension is a fairly recent addition to the PAS and as such has not rec the same theoretical attention in the literature as have the other dimensions. In addition fourth dimension has been subsumed by the reference group concept discussed below. Br the primitive poles indicate whether a person tends to be goal oriented (G) or task oriented The goal oriented person has a high ability to learn up to his innate level and to acquire skills. He is not only stress tolerant but tends to thrive on stress. The G person also ha conflict well. By contrast, the task oriented person has difficulty learning to his potential. vulnerable to stress and conflict and is easily immobilized. He lacks perspective and focus getting from one moment to the next.

C. Reference Groups

PAS theory emphasizes the interaction effects of the various dimensions and levels can be seen from the preceding discussion, the possibilities for distinct personality types q become unmanageable (Gittinger's original formulation gave personality descriptions fo different types). Using the polar extremes of the primitive level, only eight cells or cluste possible, but allowing for varying degrees of strength of the primitive tendencies, several lev compensation, several levels of modification, the fourth dimension, age, and gende astronomical set of possible personality descriptions results. While all are theoretically po only a few can be identified psychometrically. The reference group concept is an atter make the data of the PAS more manageable. A reference group collapses a large number c

is represented 15 times and corresponds to the 8 patterns formed by the original 3 PAS dimensions.

All the members of the same group share a common value system; that is, they deal with the same set of forces driving their behavior. So, for example, a hedonist and a prude can occupy the same group in spite of wide behavior differences because dealing with the issue of pleasure is the urgent task for this group. In the same way persons who seek confrontation and those who avoid it are grouped together since dealing with confrontation is the main topic for this group regardless of behavioral resolution.

D. Current Usage

As mentioned previously, the PAS is receiving growing visibility in a number of academic settings. The PAS Foundation's current bibliography lists 146 PAS–related references, including studies validating PAS concepts as well as studies showing the descriptive value of the test. A review by Krauskopf[10] concludes that there is evidence of concurrent and construct validity for the PAS and some demonstration of predictive validity.

The PAS has been used successfully to predict rank order of student course achievement,[11] to distinguish between subgroups of ulcerative colitis patients,[12] to separate patients suffering migraine headaches from ulcerative colitis patients,[13] to describe the personality characteristics of AWOL soldiers,[14] to relate hysterical symptoms to personality traits,[15] and to separate criminal populations from noncriminals.[16]

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III DISCUSSION

A. PAS Critique

Current evaluation of the PAS must begin from the fact that it is an evolving system. The complexity generated by the intra-individual interactions of abilities, coupled with the largely empirical nature of PAS development and continued refinement of theory, has made periodic revisions and updates of the system necessary. This can be regarded as an advantage or a disadvantage. Some would see the effort as doomed from the start and are inclined to distrust the system entirely. Others have added components to the system, responding to perceived shortcomings, in attempts to improve its usefulness. The attitude of doom is probably due to a lack of familiarity with the complexity of the test while the attempts to improve usually follow the experience of dramatic results with its use in specific situations.

Representative of the first position is the attack by Turner and his colleagues in a study sponsored by the National Institute of Mental Health and reported in a leading journal of clinical psychology.[17] Turner et al. attempted two seemingly straightforward analyses: (1) a determination of the correspondence between two standard self-report measures (16PF and MMPI) and the personality characteristics of persons within various PAS classifications, and (2) an investigation of several PAS assumptions. Negative results are reported for five of seven hypotheses with "little utility for clinical application" for the two significant findings. After defending the adequacy of their study's design, the authors present a critique of PAS theory and measurement that makes the following points: (1) available evidence does not support the choice of Digit Span, Block Design, and Picture Arrangement as the primitive indicators (based on one study that showed greater heritability for Information, Arithmetic, and Vocabulary); (2) Normal Level appears to be calculated in such a way that compensation will be judged to have occurred (this is offered as an explanation of why their sample was skewed toward compensation); and (3) the foundation of PAS measurement and classification is flawed since it relies on difference scores (generally thought to be unreliable). The authors conclude that because their hypotheses were not unsupported, the whole system must be questioned.

The opposite view is espoused by Saunders who, based on multiple experiences of what he considered valid profile interpretation by John Gittinger, has devoted a good portion of the last 30 years to PAS related research. In a series of studies[6] using factor analysis, he demonstrated

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that the WAIS samples material from an 18–factor domain making it more factorially complex than previously thought. He then turned his attention to the relative primitivity of certain traits and, using several different methods, found support for the hypothesis that Digit Span, Block Design, Picture Arrangement, and Digit Symbol measure primitive traits while other WAIS subtests measure learned or acquired characteristics. Integrating these insights into PAS practice, he has gone on to develop the concept of the fourth dimension and the reference group structure.

Taken together, Saunders' contributions answer the harshest criticisms leveled at the PAS. Specifically, addition of subtest items, fourth dimension measures, and reference group structure addresses the limitations of the WAIS as a measurement tool, eliminates the dependence of personality classification on Normal Level, and obviates criticisms based on the unreliability of difference scores. One measure of the success of his approach is that randomly generated profiles do not generally fit reference group definitions.

Saunders[18] has directly responded to the negative findings of Turner, et al. by showing that their study (1) failed to account for the interactions of abilities in its analyses, (2) tested hypotheses based on oversimplifications of PAS theories, (3) used an unrecognized biased sample, and (4) used the scales of a self–report measure (MMPI) with no reported reliability in normal populations. Using Turner's own data, Saunders goes on to demonstrate support for commonality between the PAS and the other personality measure (16PF) used in the study.

In summary, current PAS theory and practice proposes nothing less than a classification system that encompasses the entire domain of individual differences.[19] It builds on the familiar multiple–factor model first proposed by Thurstone[20] and pursued by Cattell[21] and Guilford,[22] but goes beyond them with the idea that personality must be seen as an interaction of abilities rather than a static repository of traits. Although the concept is complex, the ultimate success of any research utilizing PAS concepts hinges on addressing this idea.

B.   Problems with Use in Psychoenergetic Research

As noted previously, the recent refinements of the PAS are still in process and have not yet been published. Because it was unclear how fourth dimension and reference group concepts were being blended into original PAS formulations, the psychoenergetics project encountered some problems as new groups were added to the system, group names were changed, and group descriptions were rewritten. The following discussion of these problems should be seen in light of the recognized necessity for these changes and not as an attempt to invalidate the PAS concept.

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1. **Fourth Dimension Theory**

The lack of a detailed theoretical formulation in PAS literature for the fourth personality dimension along the lines of the other three is currently a weak link in the system. The descriptive material for this dimension has changed more often than that of the other three as new reference groups were added. Since all of its aspects appear to be learned, it is not at all clear how this dimension can have the same primitive aspect as the other three. Theoretical questions aside, the changing nature of the descriptive material has impeded our efforts to use the system as a descriptive tool.

2. **Reference Group Instability**

The instability of reference group number and composition for the past several years is another aspect of the system that has hampered our attempts to describe psychic personalities. Initially, we relied on short summary descriptions generated by profile analysis of the four dimensions. These descriptions changed as more groups were added and individuals were placed into other groups. With the recent stabilization of the system at 120 reference groups, it is hoped that detailed descriptions of each reference group will be forthcoming. This task will not be trivial because of the considerable amount of within group behavioral variability postulated by the system. There are indications that Gittinger, although now retired, is interested in formulating these descriptions.[23]

C. **Conclusions and Recommendations**

This review, stimulated by critical evaluation of the PAS measurement process, long-standing indifference to PAS theory by the psychological community, and unfamiliarity with the development of fourth dimension and reference group concepts, hopefully communicates a clearer understanding of what must be considered a truly ambitious project. The tenacity of a small and dedicated group of researchers (particularly Saunders) and clinicians is to be applauded. Yet, a tremendous amount of work remains to have the concept integrated into mainstream psychological research and academe, where it will ultimately have to be accepted for its full potential to be exploited.

The continued use of the PAS as a descriptive tool in psychoenergetic research is much enhanced by the recent stabilization of the reference group structure. This function will be additionally improved by complete theoretical and behavioral descriptions of each reference group. It is recommended that new subjects showing psychic talent in laboratory tests continue to

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be tested with the PAS as part of a long–range effort to find unique characteristics of psychic personalities.

The use of the PAS as a potential mass screening instrument in conjunction with a self–report test (MBTI) has to be reevaluated (see Appendix B, part D). It appears that although the PAS can be used to predict MBTI scores, the converse is not true. Since the PAS is relatively time consuming to administer and cannot be done in a group setting, it appears that the PAS's value to the psychoenergetic project will continue to be descriptive, rather than predictive, until a larger data base of reliable psi performers is accumulated.

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APPENDIX A

FUNDAMENTAL FACTS ABOUT REFERENCE GROUPS

David R. Saunders

MARS Measurement Associates

Fundamental Facts about Reference Groups

David R. Saunders
MARS Measurement Associates *

The purpose of this document is to provide an introductory overview of the WAIS/PAS Reference Groups. Rigor and detail have been sacrificed in favor of brevity and impact. Questions from interested readers are invited.

A "Reference Group" may be defined as (1) a specified set of real individuals who are both (2) demonstrably homogeneous according to appropriate quantitative criteria and (3) acceptably homogeneous according to meaningful behavioral criteria.

Taken as a whole, the system of Reference Groups is able to integrate an extraordinary range of individual difference data, including both "normal" and "abnormal" personality as seen through self-reports and/or tests and/or observer ratings. All this is accomplished within a conceptually interesting, computer-compatible framework.

A -- From the perspective of psychological theory

1. There are precisely 120 groups. The groups are relatively distinct from one another, and these distinctions between groups are of primary importance. In addition, the members of any one group will be found to vary considerably; while these differences are not insignificant, they are of secondary importance. The over-riding important difference between any two groups is that the within-group rules are different. In effect, group membership is to be regarded as a "moderator variable" that establishes the proper interpretation of everything else.

1a. An appropriate visual analogy is provided by the distribution of numerous two-dimensional galaxies in the three-dimensional physical universe.

1b. A second useful analogy is with quantum mechanics. Something akin to a "quantum jump" is required for an individual to move from one Reference Group to another. On the other hand, within-group movement is relatively easy and likely.

1c. A third useful analogy is with the periodic table of chemical elements, which points to the existence of only certain atomic forms and predicts many of their properties.

2. Each reference group has been provided both a name, as summarized in Figure 1, and a systematic designation, which com-

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* P.O.Box 591, Pennington, New Jersey 08534-0591

prises three letters and a "digit." Either of these is intended to serve as an interpretive label, and either may also serve as an hypothesis; neither is intended to serve as a definition.

3. 120 can be factored as 3 x 5 x 8. (Notice that 4x4x8 would make 128; assuming it is sufficient, the 3x5x8 model is slightly more efficient.)

3a. As it happens, Guilford's "Structure of Intellect" (1967) also postulates precisely 120 cells in a 3x5x8 array. Guilford's model is focused on a different problem, however, and the common occurrence of "120" is only a coincidence.

4. The 3-fold breakdown encompasses Pro-active, Poly-active, and Re-active, which may be regarded as three modes of stress management. This aspect of the Reference Group array is essentially unchanged from the previous 96-group model, and can be seen clearly in the initial 72-group model.

5. The 5-fold breakdown encompasses Left-brained, Right-brained, Old-brained (subcortical), New-brained (neo-cortical), and Balanced. Only 4 of these were recognized by the 96-group model, and only 3 by the 72-group model.

5a. The 5-fold breakdown may also be conceptualized in terms of the Jungian functions -- Thinking, Feeling, Sensing, Intuition, (and Ambivalence), respectively.

5b. The physical layout of Figure 1 positions the four Jungian functions in the same four quadrants that are used by Lowen. Several of the labels in Figure 1 also happen to have been used by Lowen. This is not the arrangement that has con-ventionally been used with the MBTI.

5c. It will be found that the groups designated as right-brained and feeling are preponderantly female, while their counterpart groups designated as left-brained and thinking are preponderantly male; all other groups are mixed. This is con-sistent with the well-known gender correlation of the MBTI.

5d. It will also be found that the groups designated as neocortical and intuitive include the highest proportions of per-sons pursuing optional educational programs, i.e., beyond high school. On the other hand, the groups designated as subcortical and sensing include the highest proportions of individuals drop-ping out even before completing high school.

5e. The groups designated as balanced/ambivalent provide the extension from 96 to 120 groups. On the one hand, they can be ignored without creating any obvious theoretical asymmetry. Once recognized, however, they substantially improve the power of the model to account for cases. In addition, it will be found that ambivalence involves more than just being in the middle on the T/F and S/N dimensions.

6.   The 8-fold breakdown encompasses the familiar PAS primitives -- Externalizer/Internalizer (E/I), Flexible/Regulated (F/R), and Role-Uniform-Role-Adaptable (U/A), in all combinations. This aspect of the Reference Group array has never changed. E/I is also equivalent to Eysenck's favorite variable. F/R is equivalent to "Field Independence," Witkin's favorite variable. U/A has never been championed.

7.   The 15-fold breakdown formed by ignoring the PAS primitives, and coded in the final "digit" of the group label, is referred to as the "Level" of the Reference Group. We have found it interesting to interpret "Level" in terms of the "Meaning of Life," along lines suggested by Spranger or Morris.

7a.   Specifically (cf Figure 1):--

Level 1: Re-active Thinker -- IS the system; life is a game.
Level 2: Re-active Feeler -- Life is a personal experience.
Level 3: Poly-active Feeler -- Life is to be lived/glorified.
Level 4: Pro-active Feeler -- Life is for personal growth.
Level 5: Pro-active Intuitive -- Life is to support evolution.
Level 6: Pro-active Thinker -- Life is to maintain the system.
Level 7: Poly-active Thinker -- Life is to run/use the system.
Level 8: Poly-active Intuitive -- Life is a mystery to probe.
Level 9: Re-active Intuitive -- Life is an illusion.
Level a: Pro-active Sensing -- Life is a religious experience.
Level b: Poly-active Sensing -- Life is a struggle to survive.
Level c: Re-active Sensing -- Life has no meaning.
Level x: Pro-active Balanced/Ambivalent -- cf 4,5,6,a
Level y: Poly-active Balanced/Ambivalent -- cf 3,7,8,b
Level z: Re-active Balanced/Ambivalent -- cf 1,2,9,c

B -- From the perspective of psychometrics

1.   The process of discovering reference groups is a multivariate procedure that has never been described. It has some features in common with factor analysis, some in common with multiple discriminant analysis, and some with latent class analysis, but it is different from any of these.

2.   The common measurement space encompassing all 120 groups has 16 dimensions. Each group is a four-dimensional "galaxy" located within this 16-dimensional "universe." The "local" four-dimensional within-group coordinate system best for each group is unique to that group. These local coordinate axes are orthogonal, and are linear combinations of the basis dimensions.

2a.   Operationally, the 16 basis dimensions are provided by 10 WAIS subtests (excluding Vocabulary), plus the PAS Normal Level, plus two measures from the PAS Fourth Dimension Kit (CN and TE), plus two indices derived from patterns of response to Picture Completion (Q1) and Information (Q2), plus Age. (Each pattern index can be regarded as a difference (or balance) between two subscales. Thus, Q1 is "Perspective" versus "Contact"

of the others; Level 0 was split into Levels a, b, and c, making 96 groups. Two years later, after this model had been roughly optimized, it became apparent that the groups at Levels 5, 8, and 2 now featured too-high-spans, as well as other unique features; Levels x, y, and z were created initially as fragments of 5, 8, and 2, respectively, making 120 groups. After further optimization, the result has been a very homogeneous set of span values, as well as a very satisfactory overall assignment rate. We now interpret these results as evidence of convergence and closure for the model as a whole.

6a. It is reasonable to expect that any case used as an exemplar should be closer to the group it exemplifies than to any other group. We are pleased to observe that this is almost always true, but it is not a rule that may be blindly enforced; decisions as to group assignment must be based primarily on the implications for the system as a whole, and cannot be made just to accommodate a particular case.

6b. The 29 available complete cases that do not qualify as exemplars come disproportionately from certain sources, especially those employing the WB-G or the WAIS-R rather than the WAIS. Over 99% of complete WAISs are now used as exemplars. (With 96 groups, this figure reached only 95%). It does appear to be true that "clinical" cases are more likely than "normal" cases to manifest profile distortion that reduces their value as exemplars.

7. Mean span is a measure of error. One major psychometric implication of the existing results is that the reliability of each _separate_ subtest of the WAIS is substantially higher than previously believed. This helps to explain why the PAS has worked in the past.

8. Randomly-generated profiles are relatively unlikely to fit the definitions of the groups. A second major psychometric implication is that the measurement space as a whole is mostly empty. This argues against the usual form of the common assumption of multivariate normality.

9. What the Reference Group Model directly provides is a way of accommodating and accounting for interaction effects in a relatively selective and efficient manner. It is assumed that conventional (non-interactive) statistics may be safely applied on a _within_-group basis, but not to samples representing more than one group.

C -- From the perspective of a single "behavior"

1. Of course, one immediate implication of the whole reference group approach is that what passes for a "single behavior" may not be. The reference group is really a better diagnosis than the behavior.

2. The provision of behavioral validation for reference

groups is obviously a novel problem. Fortunately, the effects are often so strong that it may only be necessary to make a clear presentation of the data, relying on the reader to apply the "Intraocular Traumatic Significance Test."

3. Figures 3-n are essentially histograms displaying distributions of group membership for various behaviorally defined samples. See Figure 1 for the appropriate labels.

3a. In most of these charts an "x" represents a case fitting its group well enough to qualify as an exemplar; a "." tallies a case with more ambiguous qualifications. In some charts other symbols may be used to identify special subgroups, as defined in the legend of the particular chart; such cases are always exemplars.

3b. In a few charts, having especially large total frequencies, the histogram bars are said to be on a "log scale." In these tallies, the first "x" represents the first case, the second "x" represents the next <u>two</u> cases, the third "x" stands for the next <u>four</u> cases, etc, etc. Thus, for example, six "x"s represents any total frequency from 32 through 63.

3c. It is important to notice that incomplete data cases are only rarely acceptable as exemplars for Levels x, y or z. This arises not simply because TE and/or CN are sources of variance within these groups, but because this variance is tied to other variance on non-missing subtests. The implication here is that most of the single behavior histograms probably understate the importance of Levels x, y and z.

3d. The "assignability rate" of a given behavior provides an interesting summary statistic. For samples of "incomplete data," this figure ranges from 71% to 92%. The lowest figures are associated with inpatient populations, consistent with the view that the most extreme profile distortions are pathological. It is interesting to observe that neither criminality nor homosexuality is pathological according to this criterion.

4. There <u>are</u> several legitimate ways to do statistical significance testing with these tables, depending on the numbers of cases they contain.

4a. If the numbers are small, it is possible to ask whether the distribution shows a significant tendency to aggregate. For example, the 11 police lieutenants shown in Table 21 come from only 7 of the 120 groups. If the null hypothesis is that the groups are equally likely and that each case is independently assigned, needing only 7 groups for 11 cases is statistically significant. Another methodology, more laborious but more powerful, is illustrated in Saunders (1986); this procedure simply tests for clustering in the original basis space.

4b. If the numbers are larger, it is also possible to ask whether two distributions are similar. This question may be

addressed by a 2x120 contingency analysis. Information statistics will be preferred to chi-square (Saunders, 1975).

4c. With still larger numbers, it is possible to ask whether an independent variable has a similar effect in two different samples. There are several examples of this methodology in Saunders (1985).

D -- From the perspective of a single group

1. All the members of a given group share a common value system, in the sense that they recognize the same set of most relevant issues -- both philosophically (as abstract concepts) and practically (in terms of personal meaning). In other words, they share a common language.

2. Two members of the same group may disagree as to what is the ideal behavioral response to these relevant issues. This possibility is often realized when the two persons are separated by their within-group indices. Disagreements of this kind are particularly distressing for the individuals concerned (as compared with between-group differences) because each can say that the other "should know better."

3. Within-group regression is "safe." Between-group regression is "unsafe." Naturalistic groups that are dominated by one (or two) reference groups have often produced satisfactory results, i.e., they have yielded statistical significance. Naturalistic groups that are heterogeneous commonly yield unsatisfactory results. Indeed, the impact of ignored interaction effects frequently is to cancel out the most important potential findings.

3a. Studies are needed that consciously enforce a within-group methodology. Our analyses using the MBTI illustrate this.

4. The four within-group dimensions, while re-defined uniquely in each group, do tend to conform to a pattern. They are always labelled as -- V1 = Age; V2 = Balance; V3 = Arousal; and V4 = Skew.

4a. By treating age as a within-group variable we automatically provide the equivalent of age-corrected norms for each class of profiles. We also imply that simple aging should not lead to any change in group assignment.

4b. The concept of balance allows us to place any profile along a continuum. At one extreme are the adjustments maintained primarily through cleverness (i.e., NL). At the other extreme are the adjustments maintained primarily through energy expenditure (i.e., DSy). Almost every group encompasses both of these possibilities.

4c. The arousal dimension is most commonly correlated with

TE or OA. Almost every group encompasses a wide range on this dimension. (We are thinking of cortical arousal, not sexual arousal.)

4d. The skew dimension is the most varied, but commonly correlates with Q2, C, D, and/or A. In practice, this is a catch-all. "Skew" is chosen deliberately as a word lacking specific psychological connotations!

E -- From the perspective of a single case

1. In view of the overall assignment rate for complete-data cases, even a failure to classify a new case becomes a statistically highly significant event! Possible explanations for such events might be (in order of decreasing likelihood?) scoring error, administration error, use of a non-standard WAIS, retest effects, and deliberate or unconscious distortion by the subject. This can include certain forms of "abnormality".

1a. It is not unreasonable to ask "What is the probability of a correct assignment?", but this is impossible to answer in the absence of any independent criterion as to what is "correct." In the majority of cases there will be one and only one plausible assignment, i.e., just one assignment that would qualify the case as an exemplar. In a minority of cases there may be two or even three plausible assignments; in such cases, we recommend the interpretation that both (or all) are true, i.e., that the individual is a sort of composite or multiple personality. Under this interpretation, all plausible assignments are "correct," but some reflect only incomplete explanations of the individual.

2. Given a successful assignment to a group, we may identify the individual's operating value system (cf paragraph A7a) and the behavioral style (cf paragraph A6) by which this is supported. Other known exemplars and/or generalized descriptions of the group may be consulted.

3. Given both assignment to a group and determination of the within-group coordinates, we may employ within-group regression to predict the individual's specific behavior on whatever dimensions of interest may have been studied in the particular group. Within the near future, these dimensions will include at least the scales of the MBTI.

3a. It is important to bear in mind that none of the groups are 100% "good" or 100% "bad" places to be, even though the proportions may vary from group to group.

4. A two-page individual report form has been designed that brings together all the information in the large data base which is relevant to the interpretation of the single case on which it is focused.

F -- From the perspective of a long-time PAS-ophile

1. For those familiar with the PAS, a Reference Group is
most similar to an aggregate of persons in a single Basic Pat-
tern, rather than a Primitive or a Contact Pattern. Furthermore,
most, but not necessarily all, persons in a given Reference Group
will belong to the indicated Primitive Pattern according to
conventional PAS scoring; however, the exceptions to this rule
are important, and make particularly interesting case studies.

1a. It _is_ mechanically possible to assign a modal PAS for-
mula to each group but, because the indicators coded by the for-
mula are commonly significant and recognized sources of within-
group variability, it is _most_ important to recognize that a given
group typically emcompasses portions of _several_ PAS basic pat-
terns. For this reason, we no longer tabulate the modal
patterns.

2. The familiar PAS has been presented as a series of di-
chotomies, with every possible combination considered as theoret-
ically legitimate. The patterns not seen in practice are simply
described as "rare." The Reference Group Model suggests that
many of these rare patterns are truly non-existent, i.e., the
possibility must be considered that any apparent observations of
these "rare" patterns are simply a result of measurement error.

3. PAS-ophiles have debated for years the optimum defini-
tion of "Normal Level," recognizing that the apparent PAS formula
of an individual often depends critically on the NL. In the end,
NL has had to be recognized as a "clinical judgment," and the
debate as unresolvable. The algorithms which implement the Ref-
erence Group Model happen to employ NL29, but they would yield
the same _end_ results with any other NL.

3a. An important property of the reference group algorithms
is that they are independent of the absolute means and standard
deviations of _all_ the measures used, and are therefore indiffer-
ent to the fact that the WAIS was never standardized with profile
interpretation in mind. In contrast, the conventional PAS is
vulnerable on this point, and it is not unlikely that many of the
convolutions of conventional PAS scoring have their roots in this
problem.

3b. Given the "obvious" effectiveness of the PAS despite
its being burdened with these problems, points 3 and 3a provide a
substantial rationale for developing the reference groups as a
more rigorous and possibly even more effective approach.

3c. It must be noted here that the Level x, y and z groups
are heavily dependent on the Fourth Dimension subtests, to the
degree that these groups would not have been recognized without
the Fourth Dimension data. (Cf paragraphs A5e and C3c.)

4. It is possible to analyze the Reference Group exemplars
to determine what simple indices (if any) best approximate each

dimension of the between-group structure. The following seven
indices are relatively independent and display relatively high
intra-class correlations as predictors of group membership:--

D-A	predicts	I/E (better than D-NL)
BD-S	predicts	R/F (better than BD-NL)
PA-PC	predicts	A/U (better than PA-NL)
CN-DS	predicts	Poly- vs Pro- or Re-active
2TE-(CN+DS)	predicts	Balanced vs Other
A-S	predicts	Left vs Right
C-OA	predicts	Pro- vs Re-active

4a. We certainly do _not_ wish to suggest that these indices
can serve as a substitute for the reference group assignment pro-
cess. The correlations are only in the range .5 to .7.

4b. It will be evident that the systematic reference group
labels treat the first three of these separately, while merging
the remaining four into a single "digit."

G -- From the various perspectives of PAS critics

1. Certainly it must be recognized that the PAS is an ex-
ample of what the psychological literature has called "pattern
analysis" or "scatter analysis" of the Wechsler subtest profiles.
This is an idea as old as the Wechsler test itself (Rapaport, et
al, 1945), and which was at least implicitly encouraged by David
Wechsler himself (1939). Indeed, he tells us that the subtests
were selected as much because they afforded opportunities for
clinical observation as because they had already demonstrated
useful psychometric properties. Over the years, while the test
has gained in popularity as an IQ measure, it has fallen into
disrepute as a clinical tool. Even PAS-ophiles will agree that
the revisions leading from the WB-I through the WAIS to the WAIS-
R, which may improve the measurement of IQ, also weaken the bat-
tery as a source of personality data. There are at least six
lines of argument that have been advanced as reasons to avoid
Wechsler pattern analysis. Three of these have been argued
against the PAS specifically, and one of them against the Refer-
ence Groups specifically.

2. _Cohen_ _and_ _dimensionality_. It will be clear from the
foregoing sections of this document that the PAS regards the WAIS
as a multi-factor test battery, whereas most published factor
analyses of the instrument report only 3-5 factors. Cohen (1952,
et seq.) is the principal source of these reports, but he has not
been alone. As we have reported elsewhere in detail, the appar-
ent problem arises from limitations inherent in factor analytic
methodology, whereby it is impossible for small correlation ma-
trices (such as 11x11) to support large numbers of factors (such
as more than 6). Using more appropriate methodology, we have
repeatedly demonstrated the presence of 18 factors in the WAIS
(cf Klingler & Saunders, 1975).

3. <u>Cohen</u> <u>and</u> <u>clinical</u> <u>validity</u>. In another influential study, Cohen (1955) assessed the ability of three clinicians to correctly sort WB-I profiles into three major diagnostic categories -- "neurotic," "schizophrenic," and "brain-damaged." The overall results were statistically significant, but barely. When these same data are processed using reference groups (see Table 36), the results are no better. Actually, it <u>is</u> possible to specify fairly simple rules that will sort these profiles very effectively; the difficulty is that these rules involve the PAS Contact Level indicators, which operate primarily within-group, so that a simple between-group tally conceals their worth.

4. <u>McNemar</u> <u>and</u> <u>reliability</u>. A more sophisticated argument was first explicated by McNemar (1957), i.e., that the reliability associated with difference scores in the WAIS is insufficient to support profile interpretation. At face value, this is a plausible argument and it can easily be elaborated to satisfy the typical clinician's requirements of statistics. The root problem is that the reliability numbers supporting this argument are not unbiased estimates -- they are lower-bound (i.e., "conservative") estimates; the magnitude of the conservative bias has been unknown, and easily ignored. However, one clear implication of the evidence for factorial complexity is that this conservative bias is probably considerable.

5. <u>Turner</u> <u>and</u> <u>construct</u> <u>validity</u>. Turner, et al (1976), made a specific attempt to formulate hypotheses that would relate the PAS to more traditional "personality" measures -- the 16PF and the MMPI. Although their data display some highly remarkable statistical effects, these did not coincide with the predictions. The major lesson to be drawn from this and other similar experiences is that conventional hypothesis testing is a risky way to do business when you are working in a domain laced with interaction effects. (We have commented more extensively elsewhere on the Turner study (Saunders, 1982).)

6. <u>Robinson</u> <u>and</u> <u>complexity</u>. Robinson's recent comments (1985) are primarily a response to Winne & Gittinger's 1973 explication of the PAS, and make a point with which we have long agreed -- that the mechanics of formal PAS scoring seem unjustifiably complex and arbitrary. We have never regarded these formalities as more than an attempt to capture Gittinger's intuitive skills as a profile interpreter. It is our present belief that the reference group approach is a better way of addressing this measurement problem, and that it is sufficiently different as to render Robinson's comments moot.

7. <u>Kiernan</u> <u>and</u> <u>relevance</u>. Kiernan's (1986) comments are unique in being specifically directed at the PAS Reference Group approach. His principal criticism seems to be that the process of dealing with the earlier criticisms has led to a "statistically determinate system." If it were not for his "tone of voice," we would actually regard this as a compliment! He appears to be saying that he would like to be provided with more verbiage tending to rationalize the use and interpretation of the various WAIS

and especially 4th dimension measures -- that such verbiage is of more interest than any empirical finding of a reference group structure. This represents such a fundamental philosophical difference of opinion that it probably cannot be overlooked. However, particularly after Kiernan's own illustration of his preferred approach simply leads to rediscovery of the poly-active versus non-poly-active dimension, we remain unimpressed.

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Tentative Names for 120 Reference Groups

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      Coach  (4) Nurturant          Programmer  (5) Achiever
   Exemplar  (4) Librarian           Scientist  (5) Consultant
  Therapist  (4) Counselor        Professional  (5) Physician
     Pastor  (4) Catalyst          Philosopher  (5) Mediator


                    Teacher  (x) Student
PRO-ACTIVE       Specialist  (x) Iconoclast
                    Acolyte  (x) Historian
                    Educator (x) Spartan


   Disciple  (a) Conservator           Manager  (6) Pragmatist
     Mystic  (a) Sophist              Engineer  (6) Technician
  Dedicated  (a) Aristocrat           Humanist  (6) Tactician
    Puritan  (a) Judge                 Auditor  (6) Analyst

                                          ____

    Showman  (3) Booster             Rulemaker  (8) Theorist
  Performer  (3) Volunteer           Organizer  (8) Activist
     Priest  (3) Entertainer           Devotee  (8) Leader
   Loyalist  (3) Conductor            Director  (8) Inductor


                     Seeker  (y) Investigator
POLY-ACTIVE      Dilettante  (y) Reporter
                     Voyeur  (y) Spectator
                  Naturalist (y) Observer


Exhibitionist (b) Empiricist        Implementor  (7) Aide
   Enthusiast (b) Chameleon         Coordinator  (7) Executive
  Pertinacious(b) Multiform            Advocate  (7) Entrepreneur
  Conspirator (b) Mirror             Politician  (7) Salesman

                                          ____

    Artisan  (2) Adherent            Rulekeeper  (9) Policeman
   Operator  (2) Compliant            Obsessive  (9) Controlled
   Detached  (2) Histrionic       Individualist  (9) Artist
Interdependent(2) Player         Counterdependent(9) Counteractive


                   Mechanic  (z) Reactor
RE-ACTIVE           Soldier  (z) Clerk
                   Galatean  (z) Narcissist
                  Counselee  (z) Hedonist


     Yeoman  (c) Dogmatist        Authoritarian  (1) Participant
  Automaton  (c) Actor             Team-Member  (1) Game-Player
   Possessed (c) Autocrat          Opportunist  (1) Scorekeeper
   Gladiator (c) Contrarian        Prima Donna  (1) Competitor

                                          ____

                        ERU ) ( ERA
  Key to PAS            IRU ) ( IRA
  Primitives            IFU ) ( IFA
                        EFU ) ( EFA
```

Span as a function of available complete data

```
170:



160:          c
         3        a 9

         1    b 2
       b

   1        c  97b              7
     b 5 1    7
              7 1
       b     97  b        1           z
150:                  y         3
                1   5      y y 3
               4 c4              x
              7  6 12  9 b b    2      8
            8   c 27     6   c x   5 3   5
              3 6          4 z            y
           9     c  126        z x x   a      2
              az      3     cy6   9 4     36   4
              a        248 9y      x
                            z     azx      5
140:            6      a     z   y 5      5
                          a      a y       6
                     4 8 c     7          5        8
                3      8      x
                       z                       8
                  9   4          z

                               8

                   x
130:


        5          10          15          20          25          30          35
```

Frequency Distribution of Exemplars
(18% complete data; log scale)

```
...xxxx (4) xxxxx                    .xxxxx (5) xxxxx.
 .xxxx (4) xxxx.                    ...xxxxx (5) xxxxx..
..xxxx (4) xxxx..                    ..xxxxx (5) xxxx...
.xxxxx (4) xxxxx                     ...xxx (5) xxxxx..

                    .xxxxx (x) xxxxx
                    xxxxx (x) xxxxx.
                    xxxxx (x) xxxxx
                    xxxxx (x) xxxxx

xxxxx (a) xxxx.                      ....xxxx (6) xxxxx...
..xxxxx (a) xxxx....                 ...xxxx (6) xxxx...
..xxxxx (a) xxxx.                     .xxxxx (6) xxxx....
.xxxxx (a) xxxx..                     .xxxxx (6) xxxx....


xxxxx (3) xxxx...                    xxxxx (8) xxxxx..
...xxxxx (3) xxx....                  .xxxxx (8) xxxx.
..xxxxx (3) xxxx....                 ..xxxx (8) xxxx...
.....xxxx (3) xxxxx.                 ....xxxx (8) xxxxx....

                    xxxxx (y) xxxx.
                    xxxxx (y) xxxxx.
                    xxxxx (y) xxxx
                    .xxxxx (y) xxxxx

xxxxx (b) xxx.....                   ...xxxxx (7) xxxx..
...xxxx (b) xxx....                   ..xxxx (7) xxx....
....xxxx (b) xxxx...                  ..xxxxx (7) xxxx....
.....xxx (b) xx......                ...xxxx (7) xxxx....


.xxxx (2) xxxx.                      ..xxxxx (9) xxxx....
.xxxxx (2) xxxxx.                     ..xxxx (9) xxxx....
xxxxx (2) xxxx...                    ...xxxx (9) xxxx..
...xxxx (2) xxxx....                 .....xxx (9) xxxx...

                    .xxxxx (z) xxxxx
                    xxxxx (z) xxxx.
                    xxxxx (z) xxxx.
                    xxxxx (z) xxxxx

....xxx (c) xxxx....                 ....xxx (1) xxxx....
.xxxxx (c) xxx....                   ...xxxx (1) xxxx...
...xxxx (c) xxxx.                    ...xxxx (1) xxx....
.xxxxx (c) xxxxx.                    ...xxxx (1) xx......
```

Approximate Frequency Norms (N=3401)
(Combined WAIS and WAIS-R Quota Samples)
(WTS data; no exemplars; log scale)

```
   XXXX (4)                                  XX (5) XXX
      X (4) XXX                            XXXX (5) XXX
    XXX (4) XXXX                           XXXX (5) XXXXX
      X (4) XXXX                            XXX (5) XXX


                        XX (X)
                       XXX (X) XX
                        XX (X)
                        XX (X) XX

    XXX (a) XXX                         XXXXXXX (6) XXXXX
   XXXX (a) XXXXXXX                      XXXXX (6) XXXXXX
  XXXXX (a) XXXXX                              (6) XXXXXX
   XXXX (a) XXXXX                          XXX (6) XXXXXXX


    XXX (3) XXX                               X (8) XXXX
  XXXXX (3) XXXX                             XX (8) XX
     XX (3) XXX                            XXXX (8) XXXXXX
XXXXXXX (3) XXXXX                          XXXX (8) XXXXXX


                        XX (y) XXXX
                       XXX (y) XXXX
                         X (y) XXXX
                    XXXXXX (y) XXX

    XXX (b) XXXXXXX                      XXXXXX (7) XXXXX
  XXXXX (b) XXXXXXX                           X (7) XXXXXX
 XXXXXX (b) XXXXX                         XXXXX (7) XXXXXXX
XXXXXXX (b) XXXXXXX                       XXXXX (7) XXXXXXX


      X (2) XXXX                            XXX (9) XXXXXXX
     XX (2)                                  XX (9) XXXXXX
   XXXX (2) XXXXXXX                       XXXXXX (9) XXXXX
   XXXX (2) XXXXXX                        XXXXXX (9) XXXXXX


                      XXXX (z) XXXX
                           (z) XX
                       XXX (z) XXXX
                       XXX (z) XXXXX

 XXXXXX (c) XXXXX                       XXXXXXXX (1) XXXXXX
 XXXXXX (c) XXXXXXX                      XXXXXX (1) XXXXX
XXXXXXX (c) XXXX                         XXXXXX (1) XXXXXXXX
 XXXXX (c) XXXXX                         XXXXX (1) XXXXXXXX
```

JAP Quota Sample (N=619 males)
(WAIS item data; no exemplars; log scale)

```
   XXX (4) X                          XXX (5) XX
       (4) XXX                        XXX (5) XXX
     X (4) XX                             (5) XXX
     X (4)                             X (5)

                        X (X) XX
                          (X) X
                          (X)
                          (X) X

   XXX (a) XXX                       XXXX (6) XXXXX
  XXXX (a) XXXX                      XXXX (6) XXX
   XXX (a) XX                             (6) XXXXX
  XXXX (a) X                           XX (6) XXXXX


       (3) XXX                            (8) XXX
    XX (3) XXXX                        XXX (8) XXXX
       (3) XX                             (8) XX
  XXXX (3) XXXX                           (8) XXXX

                          (y) XX
                       XX (y) XXX
                          (y) X
                      XXX (y)

    XX (b) XXXXXX                    XXXXX (7) XX
     X (b) XXXXX                       XXX (7) XXXXX
    XX (b) XX                          XXX (7) XXX
     X (b) XXX                          XX (7) XXXX


   XXX (2) XXX                          XX (9) XXXXXX
    XX (2) X                             X (9) XXX
       (2) XXXX                        XXX (9) X
    XX (2) XXX                         XXX (9) XXXX

                      XXX (z) X
                        X (z)
                        X (z) XXX
                          (z) X

  XXXX (c) XXX                       XXXXX (1) XXXX
    XX (c) XXX                        XXXX (1) XXX
     X (c)                            XXXX (1) XXX
    XX (c) XXX                         XXX (1) XXXX
```

WCC Captive Sample (N=732)
(WAIS item data; 64% exemplars; log scale)

```
xxxxx (4) x                          ... (5) xxx
      (4) xx                        .xxxx (5) x
 .xx (4) xx                         .xxx (5) xxx
   x (4) ..                         .xxx (5) x

               xxx (x) .
                .. (x) .
                   (x) .
               ..x (x) x

    xx (a) xxxx                      .xxxx (6) xx
  xxxx (a) xxx                       xxxx (6) xx.
.xxxxx (a) xx                          .x (6) xxx
   .x (a) x                            .. (6) xx.


     . (3) xxxxx                       .. (8) xxxx
 xxxxx (3) x.                          .x (8)
 .xxxx (3) xxxx.                     .xxx (8) xxx
  xxxx (3) x                        xxxxx (8) xxx

               .xx (y) x.
                 . (y) x
               ..x (y) ...
                .. (y) xx

  ..x (b) x                          .xxxx (7) xx.
  .xx (b) xx.                         .xxx (7) xxx.
  .xx (b) x.                          .xxx (7) xxx..
 .xxx (b) xxx                        .xxxx (7) xxx


     x (2)                            xxx (9) xxxx.
     x (2)                             xx (9) xxx.
       (2) xxx                         xx (9) xx.
   .xx (2) xx                         xxx (9) xxx.

                 x (z)
                 . (z) x.
                   (z) ..
                .. (z) x..

  .xx (c) xx                          .xx (1) xxxx.
     (c)                            .xxxx (1) xxx
  xx (c) x                             .x (1) x
     (c) x                            .xxx (1) xx
```

70 College Football Players
(* later became All-American)
(WAIS-item data; 74% exemplars)

```
        x (4)                              . (5)
        . (4)                              x (5)
          (4)                           .xxx (5)
          (4)                            xx* (5)

                          (x)
                          (x)
                          (x)
                          (x)

          (a)                              (6)
      xxx (a)                              (6)
  xxxxxxx (a)                              (6)
        . (a)                              (6)


          (3)                              (8)
   ...xxx (3)                              (8)
        x (3) x.                       xxx (8)
        x (3)                       ...xxxx (8)

                          (y)
                          (y)
                          (y)
                          (y)

          (b)                              (7)
          (b)                              (7)
          (b)                              (7)
          (b)                              (7)


          (2)                              (9)
          (2)                              (9)
          (2)                           xx (9)
     .xxx (2) xxxx..                       (9)

                          (z)
                          (z)
                          (z)
                          (z)

          (c)                            .xx (1)
      .x (c) x                     ..xxxxxx* (1)
          (c)                              (1)
          (c)                            x (1)
```

56 Cal Tech Freshmen
(WAIS item data; 91% exemplars)

```
x (4)                                        (5)
  (4)                           xxxxxxx (5)
  (4)                                 . (5)
  (4)                                   (5)

                      (x)
                      (x)
                      (x)
                      (x)

  (a)                               x (6) xxxx
  (a)                             xxx (6) x
  (a)                                 (6) x
  (a)                                 (6)


  (3) .                                 (8) xxx
  (3)                                   (8) .
  (3)                                   (8)
x (3)                                   (8)

                      (y)
                      (y)
                      (y)
                      (y)

  (b) xxxxx                          xxx (7) xx.
  (b)                                    (7) xxx
x (b)                                    (7) xx
  (b)                                    (7)


  (2)                                xxx (9) x.
  (2)                                    (9) xx
  (2) x                                  (9)
  (2)                                    (9)

                      (z)
                      (z)
                      (z)
                      (z)

  (c)                                    (1) xx
  (c)                                    (1) x
  (c)                                 xx (1)
  (c)                                    (1) x
```

Medical Students (N=168)
(WAIS WTS data; 75% exemplars)

```
          (4)                          (5) x.
      xxx (4)                    ..xxx (5) x.
       .x (4) x                    xxx (5) xxxx.
          (4)                       .x (5)


                       x (x)
                       . (x) .
                         (x) xx
                         (x)


          (a)                    .xxxxxx (6) xxxxx.
        x (a) xx.                      xx (6) x
        x (a)                             (6) xxx.
       xx (a)                           x (6) x



          (3)                          (8) x
     .xxx (3) x                        (8) .
        x (3) xx                   ..x (8) xxxxx.
 ..xxxxxx (3)                          (8) xxxxx.


                         (y)
                         (y) .
                         (y)
                         (y)


          (b) x.               xxxx (7) xx
          (b)                   .x (7) x
      .xx (b) xxxx.           xxxx (7)
     xxxx (b)                      (7) xx



          (2)                          (9) x
          (2)                          (9) xxx.
        . (2) xxx                      (9)
        x (2) xx                    .. (9) x


                         (z)
                         (z)
                         (z)
                       . (z) .


        . (c) xx                     x (1)
     ..xx (c) ....                  xx (1) x
          (c)                    xxxxx (1) xxx..
          (c)                      xxx (1) x.
```

43 Members of a Management Development Seminar
(#,*,+,-,=)
(WAIS item data; 88% exemplars)

```
    +  (4)                           (5)
    +  (4)                        +  (5)  +
       (4)                           (5)  +.
       (4)                       ++  (5)  +


                        (x)
                        (x)
                        (x)  .
                        (x)

       (a)                        -+  (6)  *
       (a)                         +  (6)
       (a)                            (6)
       (a)                         +  (6)  +


       (3)                           (8)
       (3)                           (8)
       (3)                           (8)
  +**  (3)                           (8)  +


                        (y)  .
                        (y)
                        (y)
                        (y)  +


       (b)                           (7)
       (b)  +                        (7)
       (b)                        +  (7)  +
    +  (b)                       +*  (7)  *


   -+  (2)                           (9)
       (2)                           (9)
       (2)  *                    ++  (9)  .
    +  (2)  x.                       (9)


                        (z)
                        (z)
                        (z)
                        (z)

    +  (c)                        *  (1)
       (c)                           (1)
       (c)                        +  (1)
       (c)                           (1)  ++
```

Theology Students (N=70)
(WAIS item data; 74% exemplars)

```
.xxx (4)                                    x (5)
     (4) .                                  x (5)
     (4)                                      (5) .
     (4)                                 xxxx (5) x

                        (x)
                        (x)
                        (x)
                        (x)

     (a)                                 .xxx (6) x
     (a) x                                    (6) x
   x (a)                                    x (6)
     (a)                                      (6)


     (3) x                                    (8) xx.
   x (3)                                       (8)
 xxx (3) xxxx.                              x (8)
   x (3)                                    .x (8)

                        (y)
                        (y) .
                        (y)
                        (y)

     (b)                                    x (7) x.
   . (b)                                   xx (7) xx..
     (b)                                   xx (7) x..
 ..x (b)                                    x (7) x


     (2)                                      (9)
     (2)                                      (9) x
     (2)                                      (9)
     (2)                                    x (9) xx

                        (z)
                        (z)
                        (z)
                        (z)

     (c)                                   xx (1)
     (c)                                    x (1)
   x (c)                                    . (1)
     (c) .                                    (1)
```

                        88 Novices
             (Retention in program #,*,+,-,=)
              (WB-I item data; 81% exemplars)


```
-..+++ (4)                                    (5)
       (4)                                    (5) +-
       (4) .                               =. (5) +
     + (4)                                 .. (5) +.-

                          (x)
                          (x)
                          (x)
                          (x)

       (a)                                    (6) -
    -+ (a) ++-                                (6) .
       (a) +                               =  (6) +
     + (a)                                    (6) -


       (3) ++                              +  (8)
       (3) -                                  (8)
       (3) -                                  (8) -
       (3)                                    (8) .-

                          (y)
                          (y)
                          (y)
                        . (y)

       (b) --                                 (7)
       (b) +                               .  (7)
    -- (b) +--                             -  (7) +
    =+ (b) --                                 (7) =


       (2)                                    (9)
       (2)                                    (9) -
       (2)                                 +  (9) =
  =--. (2) +++                            -.+ (9) .-

                        + (z)
                          (z)
                          (z) -
                        . (z)

     - (c)                                    (1) -
     + (c) ++++.--                            (1) +
       (c)                                    (1)
       (c) +==                              . (1)
```

Promotability of Police based on Pre-employment Testing
(# made Lieut; + made Sgt; - failed probation; = a complainee)
(WAIS item data; 93% exemplars)

```
  -+ (4) -                               (5)
     (4)                           ==- (5) =
   # (4) +                           - (5) +--
   . (4)                             . (5)

                        (x)
                        (x)
                        (x)
                        (x)

     (a)                              (6) ----
   + (a) #-                         -. (6) +
     (a)                              (6) +++
  ++ (a) -                            (6)


     (3) +.-                          (8) +
   - (3) +++                          (8)
     (3) +                            (8) +
  ++ (3) +                   =--+++ (8) ++---

                        (y)
                        (y) .
                        (y)
                      - (y)

     (b) +-----              ----+ (7)
     (b) #=                        (7) -
  -- (b) ++                      + (7) ++-
     (b) +.-                       (7) ##+++


     (2) .=                  =-.+ (9) ##+++--
     (2) =                     ++ (9) #++-=
     (2) -                        (9) +-
  .+ (2)                        =- (9) -

                      - (z)
                      - (z)
                        (z) -
                        (z) +

     (c) ###+--                  .- (1) ++--
     (c)                            (1)
   - (c)                          - (1) +++
     (c)                       ---- (1) +
```

104 Deadly Criminals
(Murder; Manslaughter)
(12% complete data; 81% exemplars)


```
.  (4)                                    (5)
   (4)                                 .  (5)
   (4)                                 +  (5)  *
   (4)                                    (5)


                    (x)
                    (x)
                    (x)
                    (x)


   (a)                               **  (6)
.+ (a)                                *  (6)
 * (a)                                   (6) ++.
   (a)                                   (6) +



   (3)                                    (8)
*  (3)                                    (8) *
*  (3) +                              .+  (8) +
.* (3)                                +   (8) ****


                    (y) .
                    (y)
                    (y)
             .+* (y)  *

   (b) ***++++++                      .* (7)
+  (b) *+                             +  (7) *
*  (b) **+                               (7)
.  (b) **.                            +  (7) +++.



+  (2)                                +  (9)
   (2)                                   (9) **++
*  (2) *+.                            .  (9)
   (2) *+.                            ++ (9)


             +  (z)
             .  (z)
                (z)
                (z)


   (c) ++.                          ..+* (1) +
.  (c) ***+                           *  (1)
*  (c)                                   (1)
.  (c) *                              +  (1) ***+++
```

104 Sex Offenders
(Rape; Child Molesting; Deviancy; Incest)
(6% complete data; 81% exemplars)


```
    r (4)                           (5)
      (4)                           (5)
      (4)                           (5) r
      (4) .                         (5)

                        (x)
                        (x) R
                        (x)
                        (x)

      (a) .                    ..ICC (6)
    R (a) R.                         (6)
      (a)                           (6) RRCI
      (a)                           (6)



      (3)                           (8)
      (3)                           (8)
      (3)                           (8)
.DCCR (3) RC                    r (8) D

                    . (y) .
                    R (y)
                      (y)
                      (y)

      (b) RI                   DIRR (7)
      (b) R...                    r (7) #C
..DICR (b) #R                       (7)
   .. (b) RRRD                      (7) CD



      (2)                           (9) RRDr
      (2)                           (9) R
      (2) C                    .RR (9)
      (2) R                    rC (9) D

                    (z)
                    (z) .
                    (z)
                  R (z)

      (c)                           (1) RR
      (c) RRCDD                 .rR (1) r
.ICRR (c)                      R (1) CID.
   DR (c) R                    R (1) #RCCCDD
```

```
                    68 Adolescent Car Thieves
                      (Reading Level +,-)
                 (WAIS WTS data; 85% exemplars)


          (4)                              (5)
          (4)                              (5)
          (4)                              (5) .
          (4)                              (5)

                          (x)
                          (x)
                          (x)
                          (x)

          (a)                              (6)
          (a) +-                        .+ (6) ++
          (a)                              (6)
          (a) +-                           (6)



          (3)                              (8) +
          (3)                              (8)
          (3)                              (8) -
          (3)                              (8) ++

                          (y)
                          (y)
                          (y) -
                       -- (y)

          (b) ++.----                      (7) ..
       .+ (b) +                            (7)
          (b)                              (7) ++++
          (b) ++----                       (7) +



          (2)                              (9)
          (2)                              (9)
          (2) -                          + (9) +
          (2) +                          + (9) ++

                          (z)
                          (z)
                          (z)
                          (z)

          (c) +                       --++ (1)
          (c) +..----                      (1) .
          (c)                              (1) ++ ----
          (c) +                            (1) .-----
```

49 Participants in an Adolescent Drug Program
(88% complete data; 94% exemplars)


```
        (4)                                    (5)
        (4)                                    (5)
        (4)                              xx (5)
        (4)  xx                             (5)  x

                              (x)  x
                              (x)
                              (x)
                           x (x)  x

        (a)                                 x (6)
        (a)                                 x (6)
        (a)  x                              x (6)
      x (a)                                   (6)


  xxxxxx (3)                                   (8)
         (3)  xx.                            x (8)
         (3)                                   (8)
       x (3)  xx                              (8)  xx

                              (y)  x
                              (y)
                              (y)
                              (y)


  xxx (b)  x                                   (7)
      (b)  .                                   (7)
    x (b)  x                                   (7)
      (b)                                    x (7)


        (2)  x                                 (9)
        (2)                                    (9)
        (2)                                    (9)  x
      x (2)                                     (9)

                           x (z)  .
                             (z)  x
                             (z)
                             (z)

        (c)  x                                 (1)  xx
        (c)                                    (1)  x
        (c)                                  x (1)
        (c)                                    (1)
```

43 Drug Pushers
(2% complete data; 84% exemplars)


```
    x (4)                              (5)
      (4)                              (5) x
      (4) x                            (5) .
      (4)                              (5)

                      (x)
                      (x)
                      (x)
                      (x)

      (a)                              (6)
      (a) x                            (6)
      (a)                              (6) xxx
      (a)                              (6) x.


      (3) x                            (8)
    x (3) x.                           (8)
      (3)                              (8)
      (3)                              (8) x

                      (y)
                    . (y)
                      (y)
                    . (y)

    x (b) xxxx                    xxxx (7)
      (b) x                            (7) .
    x (b) x                            (7) x
      (b)                              (7)


      (2)                              (9) xx
      (2)                              (9) xx
      (2)                              (9)
      (2) .                            (9)

                      (z)
                      (z)
                      (z) x
                      (z) x

      (c)                          x (1)
      (c) x                          (1) xx
      (c)                            (1)
      (c) x                          (1)
```

Practicing Homosexuals (N=87)
(11% complete data; 92% exemplars)

```
              (4)                              (5)
              (4)                              (5)
              (4)                         f    (5)
              (4)                              (5)  ff

                         (x)
                      m  (x)
                         (x)
                         (x)

              (a)                         f    (6)
              (a)                      fmmm    (6)
         m    (a)                              (6)  m
      mmm     (a)                              (6)  m.


              (3)                              (8)  m
       mm     (3)                              (8)
              (3)  mmffff                      (8)
      fmm     (3)                              (8)  mmmf.

                         (y)
                         (y)
                         (y)
                      fm (y)

              (b)  mmmf.                  ff   (7)
         m    (b)  mff.                         (7)
    ..fmmm    (b)                               (7)
        mm    (b)  mf                      mm  (7)  mmmf


              (2)                          m  (9)  mmf
              (2)                              (9)
              (2)  mf                          (9)  .
        f     (2)  f.                    ffm  (9)  m

                         (z)
                         (z)
                         (z)
                         (z)  m

              (c)  m                       m  (1)
        mm    (c)                              (1)
              (c)  m                       m  (1)
              (c)  m                       m  (1)  mf
```

APPENDIX B

NOTES ABOUT PSI

David R. Saunders

MARS Measurement Associates

Notes about Psi

David R. Saunders
MARS Measurement Associates

A -- What have we learned about viewers and psi?

1.   Throughout this project we have maintained a PAS distri-
bution displaying the current reference group assignments of all
the psi-relevant cases in our file. These notes incorporate
three different versions of this distribution, which are distin-
guished by a chronological code in the upper left corner of the
page. The code consists of the year, and the version number
within the year. The current version is designated as (88.0).

1a. This distribution incorporates cases drawn from JFK
University, Mobius Group, Monroe Institute, Princeton University,
Psychophysical Research Laboratory, and the University of Wyom-
ing, as well as SRI. For some of these data, we are pledged to
maintain individual anonymity even from SRI.

2.   The PAS data for the six superstars are especially awk-
ward. Only two of the six are complete and uncomplicated (an
IRA8 and an IRAy). Two more are nominally complete, but only
following "split administration" of the WAIS (an ERAy and an
IRUc). The other two are wild; one of them is probably ERU3; the
other is probably either IFA2 or IFA3.

2a. Viewer 009 has done the complete PAS twice, with dif-
ferent testers at an interval of about two years. The profiles
are superficially quite different, and _neither_ meets the criteria
for assignability even though 100% of the other records generated
by these testers are now exemplars. Viewer 009 is markedly
color-blind, complicating the administration and interpretation
of CN. We have dealt with these data by combining the two raw
profiles, accepting the first administration for D, OA, and CN
(where practice effects are a major concern) and accepting the
better score on all other subtests; the resulting profile is a
clear ERU3. Throughout the process, Viewer 009 has expressed
skepticism concerning the testing procedures, arguing that he can
appear to be whomever he wishes to be. It is clear that his tac-
tics have caused problems, but ERU3 now appears relatively cred-
ible.

2b. Viewer 414 did the incomplete PAS twice, with different
testers at an interval of about six months. He is now deceased,
so that complete data even via split administration is imposs-
ible. His two profiles are superficially different, featuring
marked improvements in both D and PC. Without the PAS Fourth
Dimension, either profile has several possible assignments, and
there is no simple resolution of the ambiguity. IFA2 is the best
fit to the first administration (but note that IFA2 is among the
least well-defined reference groups), and IFA3 is the best fit to

the second (which is the more complete record). IFU6 fits both acceptably well. Also, IFA3 seems most concordant with the other superstar data. The one inescapable point is that Viewer 414 is a primitive F, and is the only F among the six superstars.

3. The simplest resolution of the superstar data is to regard them all as a single cluster -- all poly-active, all basic F, and all tending to low Q1 and high TE. However, there are interesting differences within the group.

3a. Sub-cluster One includes three primitive RA individuals: Viewer H285 (an IRAy, central to this cluster; particularly adept in precognitive tasks; able to perform under pressure or when fatigued; discovered his skill as a child), Viewer 373 (an IRA8; able to perform in a variety of modes; needs to "cool down" to provide a proper mental attitude; learned his skills as an adult), and Viewer 504 (an ERAy; able to perform in a variety of modes; subject to fatigue effects; learned her skills as an adult).

3b. Sub-cluster Two includes two primitive RU individuals: Viewer 009 (an ERU3, central to this cluster; discovered his skill as a child), and Viewer 002 (an IRUc but acceptable as an ERU3). Viewers 002 and 009 espouse strikingly similar views as to how to do remote viewing -- views not shared with the other sub-clusters.

3c. Sub-cluster Three consists of Viewer 414, whom we now regard as an IFA3. He discovered his skills as an adult and was renowned for the depth of detail in his viewing.

4. Referring to the current version of RGPC.14 (Assorted Psi Personnel) we may summarize the PAS characteristics of good viewers as follows:

4a. At least 10 out of 12 stars and superstars fall into reference groups suggestive of good right-brain development. Only one "star" (Viewer 059) is in a group suggestive of left-brain dominance; we would expect this viewer to experience the greatest difficulty with AOL.

4b. At least 4 out of 6, and possibly 6 out of 6 superstars are poly-active, which is suggestive of good interhemispheric communication in the brain. However, 5 out of 6 mere stars are merely pro-active. It seems unlikely that any star or superstar viewer is re-active.

4c. 5 out of 6 superstars and 4 out of 6 stars are primitive R. 4 out of 6 superstars and 4 out of 6 stars are primitive A. However, none of the 12 stars and superstars is even a possible FU.

If we interpret the PAS R/F and A/U in signal processing terms, these results do make sense. We have said elsewhere that R demands a high signal-to-noise ratio in order for perception to

occur. On the one hand he learns that he can trust the reality of what he does perceive; on the other hand he is prone to errors of omission. Thus, if he believes he has ESP, he is willing to be a subject, and can learn to perform with statistical significance. The F individual is able to recognize a signal imbedded in relatively more noise, and is forced to learn techniques for distinguishing signal from noise. Even if he has ESP, he is less likely to trust it, and therefore less likely to be a subject. But once he masters the required skills, he produces a more in-depth product.

A/U extends this picture by indicating the innate noise level of the individual -- A is low and U is high. Thus, the hypothetical FU viewer has both factors collaborating against him -- a high innate noise level and a relative inability to focus on just signal. On the other extreme, the hypothetical FA viewer is potentially the best viewer of all -- in the absence of noise, a tendency to pick up a weaker signal becomes an advantage.

4d. We have noted in the past that good viewers tend to handle the Time Estimation task of the PAS in an unusual way, which is not systematically reflected in the PAS scoring. This is the tendency to move towards larger numerical scores (expressed as percentage of target) across the seven trials within the total task. This effect is sufficiently rare in the general population as to be almost "pathognomonic" of a good viewer. Within the reference groups, this does have the effect of confining good viewers to groups allowing TE to be a significant within-group variable, and to position the viewers towards the high TE poles of these groups.

5. A superficial review of Table RGPC.14 would suggest that dowsing (most of the data-points are "temporal dowsers," i.e., good IDS performers) is a pro-active more than a poly-active skill. Actually, the superstar viewers do tend to include IDS in their repertoire of skills. Thus, we may most parsimoniously regard IDS simply as a lesser psi-skill -- one to which FU persons and pro-active persons may reasonably aspire.

6. The persons who have been characterized as psi-Effectors in Table RGPC.14 show a possible tendency to be re-active. It is not immediately clear how this may be interpreted. However, the tendency for persons with different reported skills to cluster in different parts of the reference group array does suggest that these skills are both real and distinct.

B -- How were the experimental Ss chosen from the pool?

1. The initial selections were made on April 29, 1986. At
that time, the PAS Reference Group Model recognized 96 groups,
not the 120 of today. The information deemed pertinent to the
selection decisions are/were contained in two distributions
(copies attached) -- one showing our then accumulated experience
with "Assorted Psi Personnel" and the other showing the 49 in-
dividuals then believed to be available in the subject pool.

2. Based on discussions with SRI (primarily with BSH), it
was agreed that the primary objective was to achieve overall
statistical significance in a standard viewing experiment using
National Geographic targets. If we could demonstrate learning,
and/or differential learning, and/or trainer effects, this would
be nice but nevertheless less important.

3. It was understood that the 12 Ss to be chosen for this
experiment would be ineligible for two other experiments that
would also be striving for significant results. In the light of
this factor, it seemed clear that there weren't going to be
enough really promising Ss to go around. This conclusion was
reinforced by the observation that the available promising Ss
tended to have been among the first to volunteer, so that we
could not expect the second half of the pool to be even as good
as the first half.

4. Under the circumstances, something had to give. We
concluded that by choosing the Ss in matched pairs, and then
randomly assigning one of each pair to each experimenter, we
could create an experimental design that could be analyzed with
"personality" as an independent variable, i.e., a 2x6 Anova.
Such a design would actually be enhanced if personality were a
significant effect, and we would therefore need to employ fewer
of the most promising Ss.

5. Accordingly, we chose four ERU8s, two ERA8s, two IRA5s,
two ERUas, and two EFU5s. All but the last pair were seen as
promising, though not as equally promising. Specifically, we
created the following design:--

	Group 1		Group 2
Viewer 137	ERU8	Viewer 516>512	
Viewer 210	ERU8	Viewer 928	
Viewer 018	ERA8	Viewer 857>432	
Viewer 579	IRA5	Viewer 158	
Viewer 739	ERUa	Viewer 891	
Viewer 588>176	EFU5	Viewer 307	

6. Only after we had formally provided SRI with two groups
of six subjects, as above, were we informed that Viewers 579 and
857 could not be used, for an unspecified "good" reason, and that
Viewer 158 could not be used because she was now pregnant. We
were able to replace 158 with 822 without altering the design,

and did so on May 13, 1986. But the loss of 579 and 857 effectively destroyed the design. (We learned later that 579 and 857 had been hired by the project to work as judges, partly on the basis of demonstrated psi proficiency!)

7. Shortly thereafter (May 31, 1986), Viewers 181 and 450 were proposed as a way of supplementing the roster of Ss, but these individuals were never regarded by us as part of the original experiment. (Viewer 450 was run as a subject; 181 was not.)

8. When the experiment was complete, but before the data were analyzed, we were asked to record our predictions based on the PAS. By this time, our opinion as to the best group assignment for several of the Ss had changed and, since the original 2x6 design was moot anyway, we simply re-ranked everyone based on the then current version of the master distribution (86.24+). This resulted in the following ranking(s) (submitted October 2, 1986):

Total Performance	Learning
Viewer 739 (ERUa)	Viewers 891,516 (IRA5)
Viewers 210,018 (ERA8)	Viewer 928 (ERU8)
Viewer 928 (ERU8)	Viewers 018,210 (ERA8)
Viewers 516,891 (IRA5)	Viewer 739 (ERUa)
Viewer 450 (IRU4)	Viewer 450 (IRU4)
Viewer 137 (ERU5)	Viewer 137 (ERU5)
Viewer 307 (EFU5)	Viewer 307 (EFU5)
Viewer 176 (EFU6)	Viewer 176 (EFU6)

8a. The rationale for these rankings was, first, that the top six in each list came from groups with a more or less positive track record while the bottom two in each list came from groups with a negative track record. (The bottom two had been chosen in the beginning as poor viewers.) Secondly, we judged that the duration of the experiment was likely to be too short for any real learning, and provided the second ranking only because we were asked to try. We assigned ERUa the top prediction not only because it had the best track record, but because PAS theory suggested that this pattern was the least burdened by compensations that might interfere with a natural aptitude.

8b. We were pleased to learn that these rankings correlated +.28 (Kendall's tau) with the final overall performance scores. By itself, this is not statistically significant, but the result does contribute net information supportive of the experimental hypothesis.

8c. The experimental Ss and their results <u>are</u> included in the current version of RGPC.14.

Assorted Psi Personnel
(Viewers (#,*,+,-,=), Dowsers (t,s), Effectors (h,k,g,x,z),
Intermediaries (a,c,w), Investigators (i))


```
      z (4) w Ii              zt++++* (5) i-
        (4) -                       (5) +t ii-.
        (4) + -                  .s (5) +t i
     st (4) * a                    (5) * iiii..

                 (x) +t -
            -i k (x) * -
                 (x) .
               + (x) i .

     ..t (a) T                      (6) *
   -. z+ (a) +                      (6)
      T (a) .=                      (6)
        (a)                     --. (6) I


      *# (3) + i=            ii (8) +++ -..
      .i (3) +                  (8) #
     . + (3)                  t (8)
       i (3)                    (8) i-..

            .w + (y) #h =
               hB (y) # i
              I T (y)
                 (y)

        (b)                     .r (7)
   ii x (b)                        (7) ..
      c (b)                        (7)
        (b)                        (7)


      c (2) k                      (9)
     z+ (2)                      + (9)
        (2) #w                  . (9) +..
   i cg+ (2)                       (9)

            .- g (z) +c
               (z)
               (z)
               (z)

     - h (c) +                     (1)
  i cz# (c) i                      (1)
     - (c) t                       (1)
     w (c)                         (1)
```

130 Actors/Actresses
(WB-I WTS data; 81% exemplars)

```
    .x (4)                              (5)
       (4) ...                      .x (5)  x
       (4)                          xx (5)  xxx.
       (4)  .                      .xx (5)  x


                    (x)
                  . (x)  x
                    (x)
                    (x)


       (a)  x                        x (6)  xxxxxx
     x (a)  xxxxxx                  .x (6)  x.
     x (a)                             (6)  x
   .xx (a)                             (6)  x



      . (3)                          x (8)  x
     xx (3)  xx.                     x (8)
    xxx (3)  xxxx.                   x (8)  xx
    xxx (3)                         xx (8)  xxxxxx


                    (y)
                    (y)
                    (y)
                  x (y)  .


       (b)  xxxx                        (7)
    .xx (b)  x                          (7)
    .x (b)   x                          (7)  x
     x (b)                              (7)  x.



       (2)                          .x (9)  xxx
       (2)                             (9)  xx
       (2)  xx                       x (9)  x
     . (2)  xx                       x (9)  x


                    (z)
                    (z)
                    (z)
                    (z)


 ...xx (c)  x                        x (1)
       (c)  x.                       x (1)
     x (c)                          xx (1)  xxx
       (c)                           x (1)  xxx
```

SRI Subject Pool (N=96)
(100% complete data; 100% exemplars)

```
x (4) x              xxx (5) x
x (4)                xxx (5) xxxxxx
x (4) xxx              x (5)
x (4)                    (5)

            x (x) xx
          xxx (x)
           xx (x)
           xx (x)

xx (a) xx                (6) x
xxx (a)               xx (6) xx
   (a) xx                (6)
xx (a) xx            xxx (6)


   (3)                 x (8) xx
 x (3)                 x (8)
xx (3)                 x (8)
xx (3)                   (8) xx

            x (y) xx
            x (y)
            x (y)
              (y)

   (b)               xxx (7)
   (b) x                 (7)
 x (b)                   (7) x
   (b)                 x (7)


   (2) x                 (9)
 x (2)                   (9) xx
xx (2) xx                (9)
   (2)                 x (9) xx

              (z)
              (z)
           xx (z)
              (z)

   (c)                   (1)
 x (c)                   (1)
 x (c) x               x (1)
 x (c)                   (1)
```

Assorted Psi Personnel
(Remote Viewers (#,*,+,-), Dowsers (t,s), Investigators (i))

```
                                    .  (5)  -  .
                                    +  (5)  +++ tt w . ?
                                  ? .  (5)
        w t (4) i                 i tt (5)  ...                    *# (6) *
            (4) + -                      /                            (6)
        . s (4) -                                                     (6) + i ?
          s (4) ?                     . h +* (a)  .                 - (6) -
            /                           +# (a)  +                        /
                                        w T (a)
                                        -  (a)  .
                                           /




                                  ... ++ (8) *++ i qqq
                                   .. I (8) i
                                  . iII (8)
                                   .. w (8) i
            (3)  .                   .      /                      (7) i
          i (3) +                                              I  (7)  .
        w ++ (3) #                                             i  (7)
            (3)                                                   (7)
            /                                                     /
                                        (b) *
                                  ii w (b)  .
                                   . w (b)
                                     (b)
                                      /




                                  xxx (9) i
                                      (9)
                                      (9)
        + (2)                       . (9)                       - (1)
        t (2)     .                    /                          (1)
        i (2)  ..                                              w  (1)
        . (2)                                                     (1)
          /                                                       /
                                   . h (c) k ww
                                     w (c)
                                       (c)  .
                                     w (c)
                                      /



                      /        ERU : ERA        /
                      /        IRU : IRA        /
                      /        IFU : IFA        /
                      /        EFU : EFA        /

                                  /
```

49 Cases in SRI Subject Pool

```
                              xxx (5)
                                x (5)  xx
                                  (5)
              (4) x           xxxx (5)                              (6)
           xx (4) x                /                           xx (6)
              (4) x                                             x (6)
            x (4)                                               x (6)
              /               xxx (a)                              /
                                . (a)  xx
                                  (a)
                                x (a)
                                  /



                             xxxx (8)  xx
                                x (8)  x
                                  (8)
              (3)                 (8)                              (7)
           xx (3)                  /                               (7)
           xx (3)                                                  (7)
              (3)                                                  (7)
              /                   (b)                               /
                                  (b)
                                  (b) x
                                x (b)
                                  /



                                  (9)
                                . (9) x
                                  (9) x
              (2)               x (9)                              (1)
              (2)                  /                               (1)
              (2) x                                             x (1)
              (2)                                                  (1) x
              /                 x (c)                               /
                                  (c)
                                  (c)
                                  (c)
                                  /




              /            ERU : ERA       /
              /            IRU : IRA       /
              /            IFU : IFA       /
              /            EFU : EFA       /

                                /
```

Assorted Psi Personnel
(Remote Viewers (#,*,+,-), Dowsers (t,s), Investigators (i))

```
                              . t (5) . -
                                (5) +++ t . ?
                              ? . (5)
        (4) * i             - I tt (5) ...              (6) *
      i (4) + i -                /                      (6)
    . s (4) -                                           (6) + i ?
      s (4) ?                                         . (6) -
        /                     . t *# (a) .                /
                                t # (a) +
                                  T (a)
                                  - (a)
                                   /


                          ? i .. ++ (8) *++ i qq
                             .. I h (8)
                                  T (8)
        (3) +                  .. (8) . q -              (7) i
        (3) +                      /                   I (7) .
    . ++ (3)                                           i (7)
      # (3)                                              (7)
        /                                                /

                                (b) #
                              i (b) .
                              . (b)
                                (b)
                                 /


                          x + (9)
                              (9)
                              (9)
      i (2) +              . (9)                        (1)
        (2)                    /                        (1)
        (2) + ..                                        (1)
      . (2)                                             (1)
        /                   h (c) k                       /
                              (c)
                            . (c) .
                              (c)
                               /



            /         ERU : ERA        /
            /         IRU : IRA        /
            /         IFU : IFA        /
            /         EFU : EFA        /

                          /
```

C.   Is hypnosis a way to facilitate psi performance?

    1.   There have been three distinct sources of data with
which to relate "hypnotic susceptibility" and the PAS.

    2.   The oldest and largest is summarized in Table RGPC.25.
These data come from a study at the University of Denver, com-
missioned by John Gittinger in the early 1950s. All we know is
that the Ss were student.volunteers, that the PAS fourth dimen-
sion was not yet even dreamed of, and that susceptibility was
evaluated as "A" or "B" or "C" -- which we have translated into
"*", "+" and "-", respectively. The distribution appears to be
non-random both with respect to volunteering and with respect to
hypnotic performance, but it provides little or no information as
to the susceptibility of any psi-relevant group.

    3.   In the summer of 1986, we arranged to visit the Seventh
Annual Rocky Mountain Conference on UFO Encounters, organized by
Dr Leo Sprinkle, and were able to administer the full PAS to 7 of
the participants. All 7 were also volunteers for individual
hypnotic interviews (intended to clarify their encounter experi-
ences), and all were judged by Dr Sprinkle to be excellent hyp-
notic Ss. These Ss turned out to include an ERUy, an ERU7, an
IFA7, an ERA4, an EFA4, an IRUc, and an ERU2, i.e., quite a dif-
ferent sample from the DU study. (The ERUy and ERU7 overlap (and
confirm) the DU results.) As expected, some of these cases (4
out of 7?) are in psi-relevant groups.

    4.   In the summer of 1987, we arranged with Dr David Gold-
stein (a biofeedback specialist in private practice) to recruit
promising hypnotic Ss through newspaper ads (inviting paid par-
ticipation in a study of "ability to concentrate") and to screen
them with the Spiegel Hypnotic Induction Profile, among other
things. A total of 30 Ss were screened and the 9 best of these
sat for the complete PAS. These 9 cases included 2 IRU2s, 2
ERU5s, an IRU5, an ERA6, an EFUz, an IFUy, and a possible ERUx.
In addition, three patients referred by a hypnotherapist for bio-
feedback training did both the HIP and the PAS; these included an
ERU2 (the best subject turned up in this group), an IFU3, and an
IFA2.

    5.   Because of the differences in the samples, none of the
PAS data are in direct conflict. The hypnotherapy cases actually
begin to replicate the DU findings.

    6.   The results of immediate interest relate to ERU5. This
reference group includes 2 of the Goldstein recruits; these are
actually among the top 3 HIP performers identified in the sample
of 30 volunteers recruited for the concentration study. ERU5 is
also the home of at least 5 persons with demonstrated psi skills,
including Viewer 518 (a star), Viewer 807 (the best S in SRI's
1985 experiment), and Viewer 137 (the best S in SRI's 1987 exper-
iment).

6a.   The three psi cases just cited are very closely grouped in the fourth quadrant of the ERU5 Locator Plot, where they are designated as "L", "B" and "*", respectively. (See attachment.)

6b.   The two high-scoring HIP performers fall in the lower half of this Locator Plot, where they are designated as "G" and "W". In particular, "W" is very close to the "LB*" cluster.

6c.   It is reasonable to hypothesize that Viewers 807 and 137, both of whom are accessible to SRI, are good hypnotic Ss.

6d.   It is also reasonable to suggest that the thrust of any hypnotic suggestions to these Ss should be to encourage them to function as ERUx, rather than ERU5. (This is by analogy with Viewer 373 -- an IRA8 who does his best (?) viewing while in an IRAy state.)

D.   Can we use the MBTI as a pre-screen for the PAS?

1.   Not easily and not well!

2.   For openers, try adding the MBTI types of the ERU5 ex-emplars to the ERU5 Locator Plot. Actually, there just might possibly be some tendency for .S.J to be associated with both of the extremes of V2, and for .N.P to be associated with balance on the balance dimension. But even if this should hold up, the next group will suggest a dufferent rule.

3.   Some rules derived in this way can be judged to be high-ly statistically significant, despite the limited numbers of cases currently available. I.e., it is often possible to make very reliable predictions of part or all of the MBTI from the PAS. It is merely the converse that is not true.

4.   Under the circumstances, it sppears to be potentially more fruitful to predict psi <u>directly</u> from the MBTI (or other self-report), and then perhaps to use the PAS as a second, logically independent predictor. For this purpose, Honorton has a larger and therefore better data-base than we do. However, we can easily confirm Honorton's major effect, which is that good psi-performers are Intuitive; this holds even when they belong to reference groups that are otherwise dominated by Sensing. (ERU5 illustrates both this rule and the possibility of exceptions!)

```
                    125 Hypnotic Volunteers
                   (Susceptibility  #,*,+,-,=)
                  (WB-I item data; 74% exemplars)



        - (4)                                (5) +
          (4)                           --+ (5) -
          (4) +                         -.. (5)
          (4)                               (5) *.

                        -. (x)
                           (x) ..-
                           (x)
                           (x)

          (a)                                (6) *+-
        . (a) *++...-----               .++ (6) .
        - (a)                                (6) *+++--
    --..++ (a)                           . (6) *+

          (3) -                              (8)
       +* (3) *../                           (8) .
        - (3)                                (8)
    -..++* (3) +                      ..*** (8) +

                        * (y)
                          (y)
                          (y)
                          (y)

          (b) *+--                       * (7)
          (b) ++-                        + (7) ---
          (b) +                        -.+ (7)
      -.+ (b) ++                       +* (7) *

        . (2)                          .+ (9) *+--
        . (2)                             (9)
          (2)                             (9)
        * (2) .--                       . (9) -

                        (z) .
                        (z)
                        (z) +
                        (z)

          (c)                              (1)
          (c) ++.--                    ---. (1)
          (c) *                             (1)
          (c)                          - (1)
```

ERU5: Programmer (87.33)

Observed versus Reconstructed: Case 50457

```
                                              V
 6  D  :            : *x         :              :        :    D  0
16  A  :            :            :            x :    *   :    A  2
14  I  :            :            :          * :        :    I  0
-1 Q2                                                        Q2 -1
13 BD  :            :            :       *x   :        :    BD 0
14  S  :            :            :          *x:        :    S  0
16  C  :            :            :           x:    *   :    C  1

10 PA  :            :          *x :              :        :    PA 0
11 PC  :            :            :    x*       :        :    PC 0
12 OA  :            :            :    x *      :        :    OA 1
 2 Q1                                                        Q1 0
 9 CN  :            :          * :              :        :    CN 0
12 DS  :            :            :         *   x :        :    DS -1
11 TE  :            :            :       * x   :        :    TE -1
```

Observed Formula: E+c+c Rcc+ Uuc Tcu

Locator Plot: a=V2=OA   x=V3=TE   y=V4= D

```
.........................................+V4.............................
:                                                                      :
:                                                                      :
:                                                                      :
:                      a                                               :
:                                                                      :
:                                                                      :
:                          E                                           :
:                                                                      :
:                               J A   P     R                          :
:              S      H              K                                 :
:                                                                      :
:                    X                                                 :
-V3               VF  Z                                            +V3
:           I          Q     B                                         :
:                                                                      :
:                                                U                     :
:         T             O   L                                          :
:         Y                                                            :
:                      C            *                                  :
:       G                                                              :
:                   WM                                                 :
:                                                                      :
:                                                                      :
:                                                                      :
:.........................................-V4..........................:
```
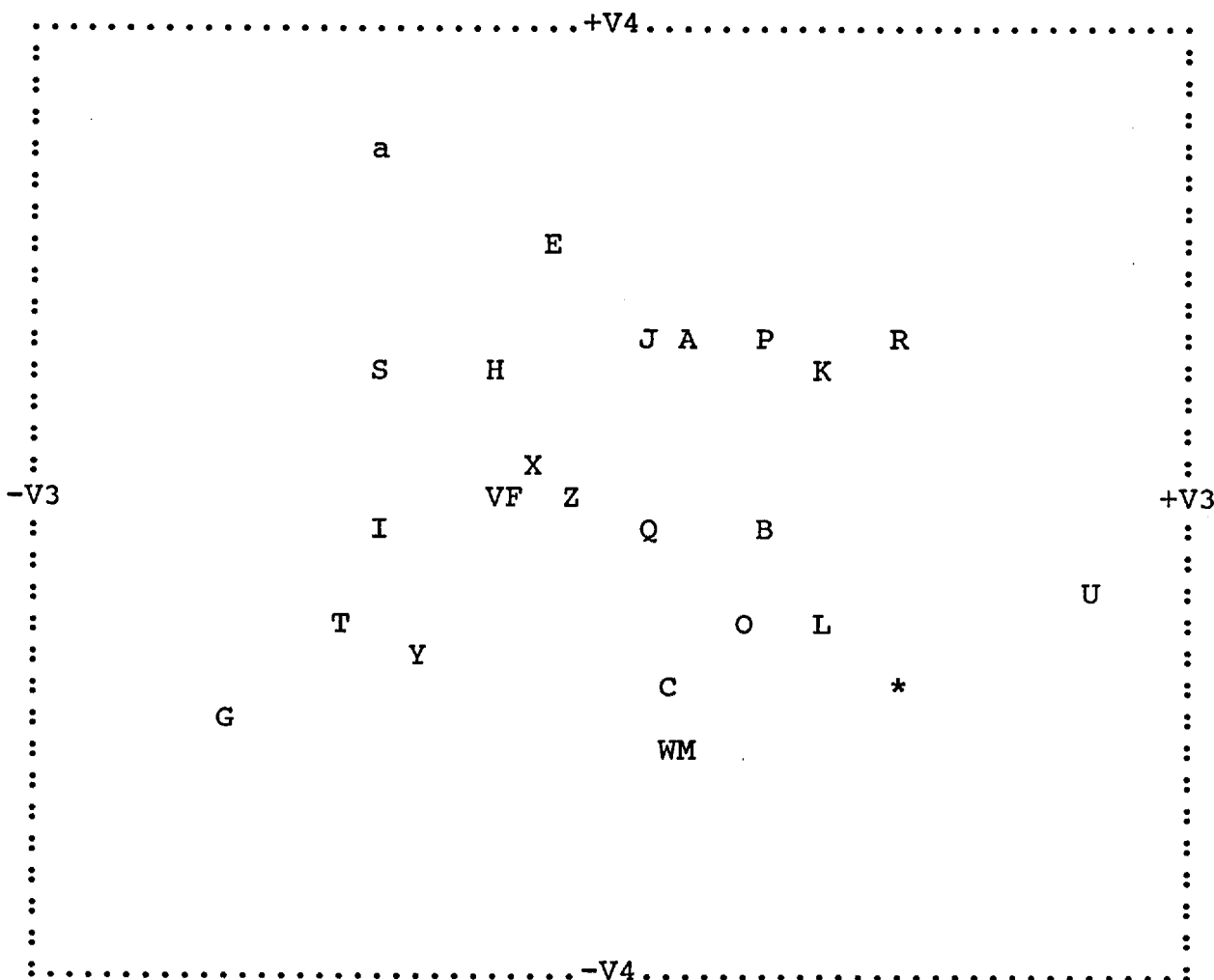
50457

ID									Q	V2	V3	V4
Complete Exemplars:

A0998	RFM	C0002	2B	02	17M12+	Depressed			14	-13	4	11
B0028	SRI	P 807	3*	01	30M13.	Phil/Cptr Prog (PK)	ESP+	ISFJ	5	-13	8	-2
C5185	DRS	OR 21	3B	01	26M16.	Tchr Chem/Psych		INTP	9	-13	3	-12
D0082	SRI	P 368	3*	01	45M18.	Psycholinguist (18)	ESP+	xNxP	9	-12	-12	8
E0514	SRI	P 572	3*	01	47F14.	Office Mgr	ESp	ESxJ	5	-12	-3	16
F5524	BEM	82104	8*		20F .	GENSIOR"		INFJ	8	-9	-5	1
G0946	DRS	DG 08	3*	02	44F13.	DP Mgr	Hy=9	xxTJ	7	-8	-20	-14
H0448	SRI	P 006	3*	01	31M17.	Elec Engnr	ESp	ENxP	5	-8	-6	9
I4018	*SLY	12024	6B	01	23M16	EXPE 7 9 6 10			22	-6	-12	-1
J4145	AWS	00166	2*		24M16.	BARTENDER			4	-5	2	10
K0041	MS	010002	2B	01	29M19.	PhD Psychology			4	-5	11	9
L0117	SRI	P 518	3*	01	37M16.	Instr ACSS	ESP*	ENTx	4	-3	11	-7
M0988	RGN	F 041	2B	01	36M17.	Cptr Pgmr			6	-2	4	-15
*0457	SRI	P 137	3*	00	25F16.	BS Math > Pgmr	ESp+	ENxP	6	0	15	-11
O4208	AWS	00205	2*		21M13.	STORE DETECTIVE			8	0	7	-7
P0088	SRI	P 310	3*	01	56M19.	Math Stat	ESPt	INTP	4	0	8	11
Q5521	BEM	82101	8*		19F .	EQUUS"		INFJ	6	1	2	-2
R5141	+SKN	P0032	2*	01	38M17.	HS Math Tchr		ENTP	8	1	15	11
S5495	BEM	82075	8*		19F .	RASPUTTEN"		ESFJ	5	3	-12	8
T5765		301723390	2*	01	18F .	CpSci 3.22		ExFP	3	6	-14	-7
U5216	SKN	P0077	2*	01	31F16.	Head Nurse		ISFJ	3	6	25	-5
V0751	SRI	I 045	3*	02	44F14.	Neuromusc Prgmr	ESPz	INFJ	7	9	-6	1
W0924	DRS	DG 05	3*	02	34F13.	Secretary	Hy=8	ESFJ	9	13	3	-15
X5690		285760940	2*		19F .	Culin 3.02		xSTJ	4	16	-4	2
Y0509	DRS	S 383	2*	01	38M16.	Accountant		ESTJ	9	16	-10	-9
Z4169	AWS	00199	2*		22M16.	UPS OPS SPVSR			7	17	-2	0
A0974	RFM	S 008	8B	02	24F +	Biol Maj; FigSktr; Depr			8	18	-12	22

									OA	TE	D
Other Exemplars:

44323	JMO	F0000	26		30F16.	TEACHER			10	-13	1	-9
12066	-CU	208836	39	80	29M15+	ACAD SUSP -RR- RDG	LTC		15	-11	2	-11
13224	CU	315146	39	01	19F13.	VOC-ACAD			4	-10	2	-9
21855	NPI	08023	26	11	36F18.	MUSICOLOGY			13	-9	3	-1
36260	MU	000097	39	01	25M18.	MATH INSTRUCTOR			9	-7	4	6
12512	-CU	258866	29	80	27M14*	ASSAULT & BATTERY	924		13	-5	4	-12
20740	MTS	00059	13	00	33M .	LSD Volunteer			9	-4	-2	-7
22217	PAL	00007	3A	00	26M .	Theol Stdnt	521	ESFP	8	-4	4	12
12420	-CU	245079	39	01	40M17.	VOC ACCTG SEEN e/r.a'			10	-2	-2	9
29738	-WCC	02829	3A	00	17F12.	WCC Stdnt		XSXJ	9	-1	2	-4
23855	RRH	00423	11	00	27M .	PSYCHIATRIC RESIDENT	538		6	5	-4	5
11841	AWS	10057	26		23F16.	DANCE ACCOMPANIST			6	5	0	2
44151	AWS	00031	26		21M15.	STUDENT			6	7	-2	5
12648	CU	271102	39	01	21M15	CU Stdnt			3	8	0	-5
15184	HAP	04018	39	01	31F17.	PROGRAMMER			11	8	0	-4
44300	JMO	F0024	26		27F16.	CORRECTIONS OFFICER			9	17	-4	7

27 16 .1410051 .1370747