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The Development of a Needs Analysis Inventory for Job Corps Utilizing a Signal Detection Model

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THE DEVELOPMENT OF A NEEDS ANALYSIS

INVENTORY FOR JOB CORPS UTILIZING

A SIGNAL DETECTION MODEL

by

Edward J. Wygonik

A Dissertation Submitted to the Faculty of the Graduate School

of Loyola University of Chicago in Partial Fulfillment

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VITA

The author, Edward J. Wygonik, is the son of Edward S. and Elizabeth (volk) Wygonik. He was born June 9, 1948 in Pittsburgh, Pennsylvania.

He attended grammar schools and secondary schools in Pennsylvania and Illinois graduating from high school in 1966.

In September, 1966, he entered St. Louis University and in August, 1970, received the degree of Bachelor of Science with a major in psychology. In September, 1972, he entered Loyola University of Chicago and in June, 1975, received the degree of Master of Education.

From 1972 until 1976 he was an instructor and the director of continuing education in psychiatry at Northwestern Memorial Hospital, Chicago. In 1979, he became the assistant director of hospital information services at the University of Illinois Hospital, Chicago. Since 1979, he has also been a consultant to the United States Department of Labor's Job Corps Program.

His article, "Hospital information systems and patient education" will appear in Practical Approaches to Patient Teaching, which is currently in press.

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CHAPTER I

INTRODUCTION

Human needs and problems have long been discussed by philoso-
phers and scientists. Arguments have ranged from questioning their
existence to questioning the exact number and types of needs.

The Encyclopaedic Dictionary (1896) gives the etymology of the
word need as derived from the Anglo-Saxon nede and is defined as
"something indispensable or absolutely necessary." The Oxford
English Dictionary (1933) defines need as "a particular point or
respect in which some necessity or want is present or is felt,"
and credits first usage of the word to AElfric in Homilies I circa
1000 as:

> Ealle ure neoda, aezder ze gastlice ze lichamlice, daeron
> sind belocene.[1]

Again, the Encyclopaedic Dictionary (1896) gives the etymology
of the word problem as derived from the French probleme and Latin
problema and defines problem as "a question involving doubt, uncer-
tainty, or difficulty." However, the Oxford English Dictionary (1933)
more precisely describes problems within the context of needs as "a
condition marked by the lack or want of something, or requiring some
extraneous aid or addition." In this sense of the word, first usage

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[1]"All of our needs are comprised of either the spiritual or
of the bodily." Special thanks to Mr. James Lowrey for his assistance
in the translations from Old English.

1

was again prescribed to AElfric in Homilies II circa 1000 as:

> Ne lufode he woruldlice aehta for his neode ana, ac to daeleune
> eallum waedliendum.[2]

For the last 900 years, the idea of needs and problems associated
with needs have been generally accepted by the public at large. Apart
from arguments regarding the existence and nature of needs many in
the field of mental health have asked the question that--given the
existence of needs, what can be done to ensure that people's needs
are met. This idea has spawned the procedure of needs analysis.
Although often criticized for its validity and reliability, the needs
analysis procedure has gained acceptance in the fields of mental
health and education. It has often been stated that if the needs of
the client(s) can be identified, then treatment and educational
programs can be developed to meet their needs. A prime example of
this was the federally funded breakfast program in the public school
systems based on the Maslovian model that prepotent physiological
needs must be met before "higher needs".

The United States Department of Labor's Job Corps program had
basically stated the same question in terms of identifying the mental
health needs of corpsmembers. Currently, Job Corps has limited
information regarding the mental health problems and needs of its
corpsmembers and has traditionally relied on "casualty figures" as
determined by medical and disciplinary discharges as a means of

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[2]He who loves his wordly possessions as needs, moreover, will
depart from this world as a beggar.

identifying problems and subsequently inferring needs of corpsmembers. The inadequacies of this approach are typified by the surprising results of the Kleemier and Moffat (1980) findings of the learning disabled in Job Corps. That the learning disabled corpsmembers existed was neither surprising nor shocking. That the average reading level for the population tested was the equivalent of a third-grade reading level was disturbing.

Third-grade reading levels of corpsmembers (at least at one center) underscore the deficiencies of relying upon a pathological model of which the main purpose is the removal (medical/disciplinary discharges) of problems. Given the population of adolescents serviced by Job Corps, the pathological model becomes even more suspect.

This research utilized a Signal Detection Model to develop an inventory which identified the mental health problems and needs of corpsmembers in Job Corps. The inventory identified how consistently the mental health needs and problems were perceived by corpsmembers, center staff, and mental health staff in Job Corps.

Signal Detection Theory provided an alternative model to the traditional, pathological one currently utilized in Job Corps. Although initially and primarily still a laboratory procedure, Signal Detection models are increasingly being used in natural environments. Swets, et.al. (1979) use of a Signal Detection paradigm in a hospital setting is representative of this growing acceptance of the procedures.

The inventory can be seen as an attractive alternative to the present system of problem identification and needs analysis. The

inventory more accurately identified problems than the current pathological model and proactively attempted to identify corpsmembers' needs--a procedure currently not practiced.

Data gathered by the inventory should benefit center, regional, and national management by identifying the mental health needs and problems of corpsmembers at a given center more accurately than by current methods. The data could be used by the National Health Office in evaluating proposals requesting funding and in identifying requests for proposals. Further, the information could be utilized in prioritizing the scheduling of requests for centers for current training programs. Finally, mental health consultants could utilize the information in evaluating program planning and effectiveness for their centers.

The Subproblems

The first subproblem. The first subproblem is to identify categories of mental health problems and needs specific to corpsmembers from which inventory items will be developed.

The second subproblem. The second subproblem is to construct an inventory utilizing Signal Detection Theory based on the categories of mental health needs and problems which will identify the specific mental health needs and problems of Job Corpsmembers.

The third subproblem. The third subproblem is to utilize a Signal Detection Theory model to analyze and to interpret the data in order to determine how consistently the respondent groups have identified specific mental health problems and needs.

The Hypotheses

The first hypothesis. The first hypothesis is that specific sets or categories of mental health problems and needs indigenous to Job Corpsmembers can be identified.

The second hypothesis. The second hypothesis is that a Signal Detection Theory model can be utilized to develop an inventory which will identify specific mental health needs and problems of corpsmembers.

The third hypothesis. The third hypothesis is that a Signal Detection analysis and interpretation of the data can identify how congruently respondent groups perceive specific mental health needs and problems of corpsmembers.

The Delimitations

The study will not attempt to resolve the problem of needs definition.

The study will not attempt to diagnose corpsmembers.

The study will not attempt to evaluate Job Corps mental health staffs' abilities to identify mental health problems or needs.

The study will not attempt to predict future mental health needs or problems in Job Corps applicants. Rather the study will focus on more clearly identifying the mental health needs and problems of corpsmembers currently enrolled at centers.

The study will be limited to only those corpsmembers who are currently enrolled in the Job Corps pro-ram.

The study will not attempt to evaluate administrative or clinical policies and procedures at any given Job Corps Center.

The Definition of Terms

Institutionally Defined Needs. For members of any given institution, be it educational, vocational, penal, or treatment, certain sets of behavioral referrants are defined as acceptable within the boundaries of that institution. These behavioral patterns can be viewed from the perspective of the desired outcomes which the behavioral patterns produce. Given the outcomes to which the institution is charged, those behavioral patterns which result in achieving these outcomes can be defined as institutionally defined needs.

Institutionally Coexisting Needs. For members of an institution, be it educational, vocational, penal, or treatment, certain sets of behavioral referrants coexist with the institutionally defined needs. This second set of behavioral referrants are specific to the individual members of the institution and may or may not be consistent with the institutionally defined needs. This second set of behavioral referrants are defined as institutionally coexisting needs.

Mental Health Need. Within the institutionally coexisting needs exist N sets of coexisting needs, of which one set is related to the mental health of the members of the institution. This set of behavioral referrants is associated with the social context of the members of the institution, i.e., interpersonal relations, individual development, individual and group functioning, etc. and is defined as mental health needs.

Within mental health needs there exists at least two further subsets, (a) institutionally conflicting mental health needs and (b) institutionally compatible mental health needs.

Institutionally Conflicting Mental Health Needs. Institutionally
conflicting mental health needs are a subset of the mental health
needs of the members of an institution, the behavioral referrants of
which produce outcomes for the individual incompatible with the out-
comes of the institution.

Institutionally Compatible Mental Health Needs. Institutionally
compatible mental health needs are a subset of the mental health
needs of the members of an institution, the behavioral referrants of
which produce outcomes consistent with the outcomes of the institution.

Mental Health Problem. Within this framework, a mental health
problem is defined as a subset of the institutionally conflicting
mental health needs such that the outcomes produced decrease the
likelihood of the corpsmember's successful completion of the Job
Corps training. In this sense a mental health problem is seen as
pathological and mental health is defined as nonconflict with the
institutionally defined needs.

Mental Health Program. Again, within this framework, a mental
health program is defined as that which increases the likelihood that
mental health needs will be compatible with and enhance institutionally
defined needs. In this sense, mental health programs increase the
likelihood of the corpsmember's successful completion of the Job
Corps training and mental health is defined as compatibility with and
enhancement of the institutionally defined needs.

Assumptions

The first assumption. The first assumption is that mental
health needs and problems of corpsmembers can be identified.

The second assumption. The second assumption is that an inventory can be developed utilizing a Signal Detection Theory model.

The third assumption. The third assumption is that a Signal Detection analysis will measure the congruence of the respondents' perceptions of mental health problems and needs.

The fourth assumption. The fourth assumption is that the national, regional, and center management at Job Corps centers can utilize the data generated by the inventory in program planning.

The fifth assumption. The fifth assumption is that institutionally defined needs are homogeneous throughout Job Corps.

The sixth assumption. The sixth assumption is that mental health needs and mental health problems are homogeneous throughout Job Corps.

The Philosophical Paradigm[3]

The philsophical paradigm upon which this research is based is an operant behavioral analysis model. The paradigm is described such that:

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[3] The philosophical paradigm was initially presented by Dr. Israel Goldiamond at the annual convention of the Midwest Association for Behavioral Analysis, Dearborn, Michigan, 1977; Revised August, 1979.

Potentiating Var

Set Var

$$S_i^D \qquad S_a^D$$

T.B.

$$Occ - \left(Beh \xrightarrow{Cnt} Csq \right)$$

A.B.

$$Occ - \left(Beh \xrightarrow{Cnt} Csq \right)$$

Hs

Prog

Stim Props

S.I.B.
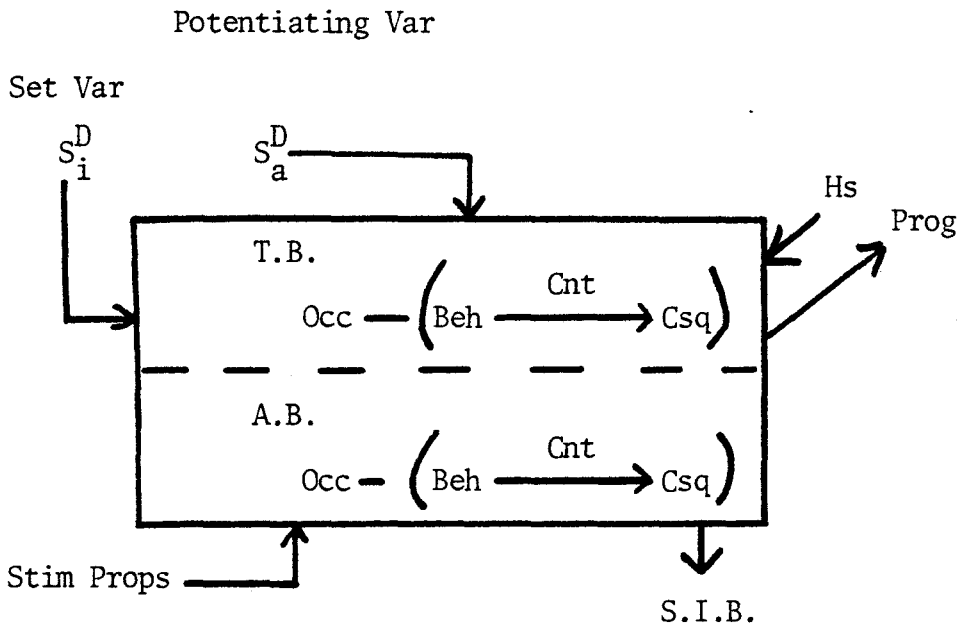
Where:

Behavior (Beh). Behavior is defined as anything an organism does, the properties of which can be modified by its effects on the environment. The defining characteristic of behavior is its modification by its consequences.

Consequences (Csq). The consequence is the event produced by the behavior such that behavior is defined by its consequences.

Occassion (Occ). The occassion is the event which can be shown to exert control over behavior which involves the examination of the limits within which differing events or properties of events are effective in controlling the behavior of particular organisms or species.

Contingency (Cnt). The contingency is the relationship between the behavior and its consequences which specifies the conditions under which particular responses may or may not produce particular consequences.

Target Behaviors (T.B.). Target behaviors are the set of behaviors of interest of an organism under certain conditions.

Alternate Behaviors (A.B.). Alternate behaviors are the set of potential behaviors available to an organism under specific conditions excluding the target behaviors.

Set Variables (Set Var). Set variables are rules for inclusion or exclusion for classes of behaviors which specify differences between topographical and functional variables. Set variables are thus, the empirical-logical procedures which define the dimension under study.

Instructional Discriminative Stimulus (S_i^D). An instructional discriminative stimulus is a set variable which specifies the inclusion or exclusion for classes of behaviors prior to the occassion for that behavior.

Abstractional Discriminative Stimulus (S_a^D). The abstractional discriminative stimulus is a set variable which specifies the inclusion or exclusion for classes of behaviors during the investigation of the behaviors of interest.

History (Hs). The history of an organism refers to the various conditions to which an organism has been exposed and its performance under those conditions.

Program (Prog). The program is the arrangement of systemic, progressive changes or transfer of discrimination resulting in the emission of the target behavior.

Potentiating Variables (Potentiating Var). Potentiating variables are environmental conditions and states of organisms which

increase the effectiveness of an organism's behavior, occassion, con-
sequence, contingency relation, or any combination of these elements.

Stimulus Props (Stim Props). Any set of events which are not
systematically related to the contingency relation are defined as the
domain of the stimulus props. For each set in the domain, there
exists at least two ranges such that an element in one range is
associated with the maintenance of the contingency relationship. The
maintenance range is defined as the stimulus props.

Schedule Induced Behavior (S.I.B.). Any chain of behaviors
which accompanies the main effects of the contingency relationship of
the target behaviors is a schedule induced behavior.

Organization of the Study

The study has been organized in the following manner. Chapter
I includes the definition of the study, the delimitations, definition
of terms, assumptions, and philosophical paradigm. Chapter II includes
the review of the related literature. Chapter III includes the
research paradigm, procedures for data collection, and the specific
treatment of the data. Chapter IV includes the results of the data
collection. Chapter V includes the analysis of the data with conclu-
sions and recommendations.

CHAPTER II

THE REVIEW OF THE RELATED LITERATURE

An Historical Overview

As noted earlier, the Oxford English Dictionary (1933) credits
AElfric with the initial use of the word need in both of the contexts
under consideration. References to needs were also found in the Old
English Chronicles (circa 1050). Beckett (circa 1300) utilized the
concept of needs in describing England "as hit were at a Parlement
of Neodes of the londe." Harrow in Of Hell (circa 1300) described
the problematic aspect of needs by stating that "... Jhesu hevide
shed ys blod For oure neode upon the rod." Claxton in the Chronicles
of England (1480), St. Augustine in Manual (1577), Shakespeare in
Measure for Measure (1603), and Milton in Paradise Lost (1667) are
all credited with utilizing the concept of needs either as a necessity
or want or as a lack of some necessary thing requiring aid or assist-
ance. More contemporary usage includes Blackwell in Works I (1716)
where it was stated that "We ought to be content if we have now so
much as will serve our present needs," and George Elliot in Romola
(1863) that the "great need of her heart compelled her to strangle...
every rising impulse of suspicion."

Indicators of Needs

In its modern usage, human needs have been defined in at least
three general ways: (a) as inner urges which are the driving forces

and motives for behavior, (b) as a model or construct for predicting

and modifying behavior, and (c) as concepts or schema which interfere

with and confuse the study of behavior. No position will be taken as

to the efficacy or validity of these approaches. No attempt will be

made to resolve differences among or deficiencies with in any of these

approaches. However, as Goldiamond (1958) has stated elsewhere, this

review will be

> concerned with all three definitions since it will consider
> systematically what is procedurally common to all definitions...

In the investigation of human needs, all definitions of needs

rely on a behavioral referent and behavioral outcomes as means of

detecting, measuring, predicting, and/or controlling needs. Within

this framework, all three definitions of human needs share a physio-

logical/biological factor, a psychological factor, or a combination of

both. Additionally, in investigating human needs, these constituent

parts are always linked with an overt behavioral referent. In this

sense of hunger need can be measured by the level of blood sugar

(physiological/biological), by enumeration of food-related verbal

statements (psychological), or by countless other methods all of which

share the reliance on an overt, behavioral referent for detecting or

measuring human needs.

Goldiamond's description of the referents used for indicators

of perception is pertinent to the behavioral referents used in human

needs. Goldiamond delineated two indicators, the semantic indicator

and the accuracy indicator. The semantic indicator is a referent

which is "assumed to have stimulus-related experiential referents."

In this sense there exists a correspondence between the use of the indicator and the "common-sense semantics." However, this correspondence is secondary to the use of the indicator and its "long history of continued lawful relations with other variables under specified conditions." The accuracy indicator designates a stimulus in some manner, i.e., spatially, temporally, counting or identifying the stimulus. The stimulus-designation aspect is lacking in the semantic indicator. Goldiamond described five features or characteristics which must be considered when utilizing either. They are:

1. Indicator Scores, typically congruence between the subjects' responses and the experimenter's answer sheet which defines accuracy;

2. Control of the scores by the experimenter;

3. Connection factors for chance congruence, response bias, positive semantic bias, and negative response bias;

4. Decision Avoidance; and

5. Cross-experimental evaluation.

Although Goldiamond utilized the semantic and accuracy indicators in his discussion of perceptions, the methodological considerations are applicable to the subject of human needs.

Modern Usage of Needs

The majority of authors belong to the class which defines needs as innate states which motivate behavior. Coleman (1976) defines needs as the "requirements which must be met for healthy development and/or functioning" and delineates two major categories of needs, the biological and the psychological. For Coleman, the biological needs

were visceral, stimulation and activity, safety and avoidance, and sex while the psychological needs were curiosity, adequacy/competence, love, self-esteem, worth, values, and meaning.

Maslow is probably most noted for developing a hierarchical system of needs starting with the basic physiological needs upon which "higher" needs were built (Goble, 1976). These "higher" needs included safety, love, esteem, and finally self actualization. In a sense, Maslow systematized his definition of needs into alternative sets or categories of needs with initial sets prepotent and ascendant over the "higher" needs.

Coleman and Maslow typify authors who rely on the innate state model of human needs in that there is less of a reliance on behavioral referents than the other two models. Behavioral referents are utilized but more so as examples as when Maslow cites indications of those people who are "self-actualized." Also, typical of both Coleman and Maslow is the reliance on semantic indicators of needs. Self-esteem and self-actualization are typical. Accuracy indicators are utilized only for the biological and physiological needs. Rarely are both indicators utilized together.

A second definition of human needs has been proposed such that needs are viewed as a hypothetical construct or model. Mischel (1968) approached the definition of human needs from the perspective that human needs are useful models in the analysis, prediction, and motiva- tion of behavior. Kelly (1958) also approached human needs as a con- struct while both authors argued for rigid specificity of behavioral referents of such constructs.

In a sense, Mischel and Kelly argued for the inclusion of accuracy indicators as well as semantic indicators of needs. The authors requirement of specificity of behavioral referents can be viewed as an attempt at accuracy indicators. Questions arise regarding the five characteristics of semantic and accuracy indicators when applied to this definition of human needs.

A third viewpoint to the definition of human needs has been voiced by proponents of behavioral analysis. A typical behavioral viewpoint is that the reliance upon needs, motives, and other such constructs leaves the scientist with variables which can not be quantified or measured while delaying the investigation of the study of behavior. Skinner (1973) stated that "a more reasonable program is to attempt to account for behavior without appeal to inner explanatory entities." Additionally, Jones (1970) has stated that it "... is not necessary to postulate the existence of some innate drive to account for the universality of the human existence."

As can be seen the behavioral viewpoint strongly advocates the use of accuracy indicators and behavioral referents with little reliance on the semantic indicators.

Needs Analysis in Counseling

The concept of needs and the influencing characteristic of needs are readily utilized in the field of counseling. Pietrofessa, Leanord, and Hoose (1971) accepted the Maslovian construct of a prepotent, hierarchical need structure. Additionally, Pietrofessa, et.al., defined a need pattern in which one or more needs operated at any given time to influence the individual's achievement and self-identity.

Johnston and Verstermark (1969) discussed how the counselor's own needs have influenced his ability to assist, help, or counsel another individual. Benjamin (1969) has suggested that counselors have a "need to be needed" and like Johnson and Verstermark, this "need to be needed" can actually interfere with the helping process. Hamachek (1971) suggested that needs are capable of influencing perceptions and beliefs and thus influencing the behavior of an individual.

In the cases cited above, the authors overwhelmingly have utilized the definition of needs as an inner state in their study of either counselors or clients. However, all authors have used the counselor's behavior (Pietrofessa, Leanord, and Hoose, 1971, Benjamin, 1969), the client's behavior (Hamachek, 1971), or a combination of both (Johnson and Verstermark, 1969) within the counseling interview as the means by which behavioral referents were attached to the defined needs. Also, typical of authors who utilize the inner state model of needs, there is a strong reliance on the use of semantic indicators. Accuracy indicators are seldom utilized.

Needs Analysis in Behavioral Counseling

Krumboltz (1966) has been one of the strongest critics of "inner states" within the field of counseling. Krumboltz has stated that counseling psychologists have "placed undue emphasis on ... inner states." In this sense, Krumboltz is representative of those authors in counseling who accept the definition of needs whereby needs are viewed as conflicting with an understanding of behavior.

Typical of the behavioral authors, Krumboltz relies heavily on

accuracy indicators rather than semantic indicators of needs.

The three definitions can be viewed developmentally. Initially, theoretical and philosophical positions had been formulated delineating the existence and nature of needs. Within this contexts, sets or categories of needs had been proposed. Subsequently, behavioral referents were added as either semantic or accuracy indicators of those needs. Finally, the value of the behavioral referents per se was established.

As can be seen from this overview, there exists at least three separate definitions of human needs: (a) that needs exist as an inner state and are the driving forces of behavior, (b) that needs are a potentially useful construct in the study of behavior, and (c) that needs are concepts and schema which impede the investigation of behavior. This review will not attempt to justify any of these positions but rather will remain neutral in the definition of needs. The study will concern itself with that which all three definitions have in common, the reliance upon behavior as the means by which needs are defined, detected, measured, and analyzed.

Job Corps

Currently, Job Corps has limited information regarding the mental health needs and problems of its corpsmembers. Traditionally, Job Corps has relied on "casualty figures" as determined by medical and disciplinary discharges as a means of inferring needs of corpsmembers. This is not surprising given the federal mandate of Job Corps.

Job Corps is a federal training program for "impoverished and unemployed adolescents" under the auspices of the U.S. Department of

Labor. Initially, Job Corps was formed as part of the Economic Opportunity Act of 1964, however, the authority for the program has been transferred to the Comprehensive Employment and Training Act (CETA) of 1973.

Job Corps has been charged with assisting "young people who need and can benefit from intensive programs of education, vocational skills training, and other services while living in a residential setting." Enrollees in Job Corps are men and women between the ages of 16 and 21. The typical corpsmember is a 17 year old, minority, high school drop-out, reading at the grammar school level and either unemployed or has never been employed. The average length of stay in Job Corps is six months (DOL/ETA, 1978).

Job Corps currently has sixty residential settings in thirty-one states and Puerto Rico. However, during the fiscal years 79/80 and 80/81, previously appropriate monies mandate the expansion of Job Corps to over 100 centers.

Individual Job Corps Centers are administered by one of three groups: 1) the federal government under the Departments of Agriculture and Interior, 2) privately contracted agencies and/or corporations, and 3) several different union groups.

A corpsmember participates in educational and vocational training while living at the center. The Job Corps education program can lead to a General Education Development (GED) degree while vocational skills training received in Job Corps often satisfies the prerequisites for union apprenticeship. In fact several unions recognize the Job Corps training as the equivalent of the first two years of their apprenticeship

programs.

The Mental Health Program in Job Corps

Each Job Corps Center is required to have a mental health program (Federal Regulation 97a. 68). The goals of which are:

1. To provide an environment which fosters the social and psychological growth and development of all corpsmembers,

2. To promote the mental health of corpsmembers through use of prevention oriented mental health principles and techniques,

3. To provide training to staff members which will enable them to identify corpsmembers who are undergoing emotional stress and need assistance, and

4. To furnish needed mental health assistance through trained staff, through mental health professionals, and, at last resort through medical termination and referral to an appropriate agency.

Technical Supplement D to CETA (1973) outlines the mental health program for Job Corps including the types of mental health professionals, qualifications and responsibilities of the mental health professionals as well as suggestions for establishing preventative programs.

Problem Identification and Needs Analysis in Job Corps

The recognition of mental health problems in corpsmembers has been documented both directly and indirectly. Technical Supplement D (1976) outlines potential corpsmember problems and (indirectly) defines the potential for problem areas in the "corpsmember's self-image, discipline, periods of stress, dropouts from Job Corps, the need for emergency treatment, and hospitalization for psychiatric purposes."

Hayman and Frank (1979) have directly documented the frequency and types of medical problems, including psychiatric problems, of corpsmembers on a national basis. Additionally, various programs have

been instituted by the Job Corps National Health Office, Washington, D.C. which are aimed at specific corpsmember problems. These programs include staff and/or corpsmember training in such areas as substance abuse (Page, 1979), teenage pregnancy (Nelson, Fielding, and Glasser, 1971; Technical Supplement H, 1976), and race relations (Plotch and Cohen, 1973).

Common to the above approaches has been the investigators' reliance on a pathological model of problem identification and use of semantic indicators of mental health needs. The above authors have documented problems existing in Job Corps based on explicit behaviors of the corpsmembers. These behaviors have been defined de facto as conflicting with the institutional goals of Job Corps and are conflictual with the institutional needs. Historically, the official policy and procedure of Job Corps has been to provide assistance to the corpsmembers to eliminate these problematic behaviors such that the corpsmembers' behaviors become consistent with the institutional needs (Technical Supplement D, 1976). If the corpsmembers' behaviors can not be changed, the recommended course of action for problem resolution is either a medical or disciplinary discharge with appropriate referral to an outside agency (Technical Supplement N).

Given the reliance on a pathological model of problem identification, no concerted effort has been made within Job Corps to define the corpsmembers' mental health needs within the framework of the institutional outcomes and institutional needs. In this sense the coexisting mental health needs of the corpsmembers have not been defined in terms of the behavioral referents. Thus no existing

documentation exists as to whether or not these coexisting needs are conflictual with or compatible to the institutional needs of Job Corps.

Psychophysics and Signal Detection Theory

A Signal Detection model is one avenue which could be utilized by the Job Corps National Health Office to document and gather data identifying the mental health needs of corpsmembers. Goldiamond (1962) in his discussion of perceptions in applied settings argued for the use of such a model, stating:

> ...such analysis (SDT) may be of interest to clinical and other applied psychologists, not necessarily because perceptual change is critical for behavioral change, but because the same variables which govern perceptual behaviors also govern other behaviors. This implies not only that procedures developed in behavioral areas other than perception are useful in the experimental analysis of perception but also that procedures developed in perception may be useful in the experimental analysis of other behavioral areas including clinical psychology...

It might be of interest to trace the development of Signal Detection Theory within the field of psychophysics. Psychophysics is that branch of psychology which typically has been concerned with the identification of thresholds of various senses. Thus psychophysics has been historically concerned with such questions as how much light must exist in order to see? how much noise in order to hear? and how much pressure in order to feel? etc.

In the typical psychophysical experiment, a range of stimuli (e.g., light, noise) is presented to an observer. The observer simply responds "Yes" or "No" to indicate if he can detect the stimulus. The experimenter notes at what points the observer can and can not detect the stimulus and arrives at some operational definition of the threshold

under consideration. Logically, one should expect that the psycho-physical approach would yield a step-function, that is, there exists some point, some boundary below which the stimulus is never detected and above which the stimulus is always detected. However, in utilizing different psychophysical methods, different "thresholds" for the same subject and the same stimulus are obtained.

Gescheider (1976) presented the traditional classification of psychophysical methodology. This classification consisted of:

1. the adjustment method; where the observer must "adjust" the stimulus to match some model or standard stimulus;

2. the method of limits; where the stimulus intensity is ordered and presented in alternately ascending and descending fashion; and

3. the constant method; a truncated method of limits where only those stimuli near the expected stimulus are presented.

As stated above, when investigators conducted experiments utilizing different psychophysical methods with the same subject and the same stimulus, different thresholds were obtained. Obviously, "something" was operating, contaminating the experiments. From a statistical standpoint one could argue that the discrepancies in the results can be attributed to (statistical) error. However, the inferential-statistical model assumes that if more carefully designed studies were performed, then the discrepancies would be eliminated. Investigators in psychophysics, however, attempted to develop a research paradigm which included and accounted for error as a natural phenomena. It could be argued that to exclude "error" from the research design

excludes an instrumental part of the human experience.

Thurstone (1929) in his classic paper on discriminal processes was first to suggest the paradigm in which "error" was included as an intrinsic element of the operating characteristic. Thurstone argued that a set of stimuli could be ordered along some continuum or parameter. However, due to ambiguity, generalization, bias, prejudice, etc. a response to a stimulus might be incorrectly given to a second stimulus. Figure 1 represents such an instance for a given response where the number of lines between S and R indicate the strength of the relationship. Figure 1 thus depicts that given the stimulus S4, the response R4 is correct. However, in that stimulus S3 and S5 approximate the same dimension of S4, in some instances, given S3 or S5, the mistaken response of R4 will be made. As the stimulus diverges from S4, the probability of a response S4 decreases.
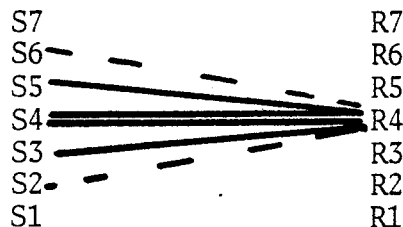
Figure 1. Intensity of the relationship between a given response and different stimuli from Thurstone (1929).

Thurstone continued by adding the effect of two responses. However, the two responses vary in terms of mean and standard deviation (dispersion). In the two response case, the question is raised, does a stimulus belong to the population of stimuli which yield one response

or the other. This is depicted in Figure 2 where it can be asked should stimulus S3 occassion response R5 or R7. Another way of stating this is that given stimulus S3 how often will that yield response R5 and response R7. Or alternately, does S3 belong to the R5 population or the R7 population.
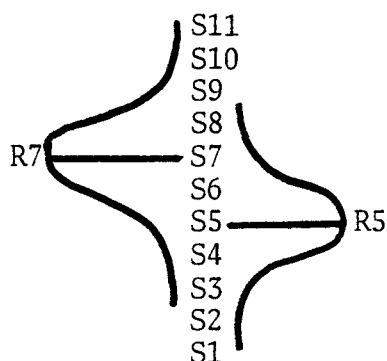
Figure 2. Two response intensity of relationship from Thurstone (1929).

The statistician might argue that this is simply another way of depicting Type I and Type II errors and does not of and by itself include "error" in the research paradigm. Of course, this is correct. However, the Thurstonian discriminal process paradigm is the model upon which Signal Detection Theory is based. It is Signal Detection Theory which incorporates the errors of the subject in the research paradigm.

Signal Detection Theory. Signal Detection Theory (SDT) can be seen as the maturation of the Thurstonian discriminal process model. In SDT, there exists two classes of stimuli described as the Noise and Signal-Noise populations. The Noise-distribution can be described as the background and in the Thurstonian model the Noise distribution can

be described as the background and in the Thurstonian model the Noise distribution can be represented by the population of stimuli leading to the response R5. The Signal-Noise population is similar to the Thurstonian distribution of stimuli leading to response R7. It is assumed that the two populations overlap in some fashion (See Figure 3).

Noise R5 d R7 Signal-Noise

Frequency of Responses

1 2 3 4 5 6 7 8 9 10 11

Stimulus Value
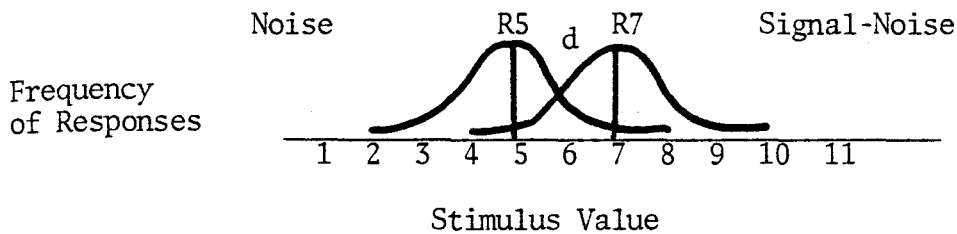
Figure 3. Two overlapping distribution of SDT.

In the classic SDT experiments (Swets, 1964) the subject is presented a stimulus and asked to identify to which population the stimulus belongs, Noise or Signal-Noise. Thus in the classic experiment, the subject is asked--was a light presented (Signal-Noise) or not (Noise); was a tone presented (Signal-Noise) or not (Noise). Thus, the minimum conditions for a SDT experiment are:

1. two classes of clearly defined, explicitly observable behaviors (events) which are mutually exclusive, and

2. two future states of the environment.

This experimental design yields the traditional 2 x 2 matrix of SDT with the four possible alternatives as depicted in Figure 4.

Future States of the Environment
Stimulus is:

Present   Absent

Observer
Reports   Present   Hit   False Alarm
Stimulus
As:
              Absent   Miss   Correct
                                          Rejection

Figure 4. Traditional 2 x 2 matrix of SDT.

The four possible alternatives yield two correct responses--
reporting a stimulus as present when it actually is (Hit) and reporting
a stimulus as absent when it actually is (Correct Rejection)--with two
incorrect responses--reporting a stimulus as present when it is
actually absent (False Alarm) and reporting a stimulus as absent when
it is actually present (Miss). These alternatives are used to develop
Hit Rates and False Alarm Rates. Egan (1975) defines both as follows:

$$\text{Hit Rate} = \frac{\text{number of Hits}}{\text{number of Hits} + \text{number of Misses}}$$

$$\text{False Alarm Rate} = \frac{\text{number of False Alarms}}{\text{number of False Alarms} + \text{number of Correct Rejections}}$$

The Hit Rates and False Alarm Rates are utilized to develop
Receiver Operating Characteristic (ROC) curves. ROC curves typically
compare the Hit Rate to the False Alarm Rate. ROC curves are important
for three reasons. ROC curves:

1. define the amount of overlap between the two distributions,

2. measure the subjects' biases to a given stimulus, and

3. measure the subjects' sensitivity to a given stimulus.

The overlap between the two distributions is defined as d', a mathematical function, such that d' is the distance between the means of the two distributions (Elliott, 1964). The subject's bias is measured by the False Alarm Rate. If a subject has a high False Alarm Rate, then logically, the subject is responding to something other than the stimulus. Finally, sensitivity to a given stimulus is measured by a function of d'.

Response Categories of Signal Detection Theory

Signal Detection experiments can be classified according to the type of responses required of the subjects. Three major categories are delineated: (1) the yes-no procedure, (2) ratings or confidence intervals, and (3) forced-choice procedures. Green and Swets (1966) describe each procedure.

In the yes-no procedure, the observer is presented with one of two mutually exclusive stimuli. The observers responses are restricted to one of two possible alternatives, typically "yes-no", "absent-present", etc. Common to this technique are the use of a warning interval and observational interval. The observer is thus prepared for the presentation of the stimulus. Unique to the yes-no procedure is that the observer cannot fail to respond according to the response categories. Thus, a response of "don't know" is unacceptable. The procedure is most often used in laboratory experiments and clearly does not reflect the real-life conditions outside the controlled

laboratory.

The rating procedure or confidence interval procedure utilizes the same presentation sequence of one of two mutually exclusive stimuli during one observational interval. However, it differs from the yes-no procedure in that any number of responses may be available to the observer. Within this framework, degrees of certainty can be established, that is the observer is given the response choices of "unsure", "probably", etc. The major advantages of the rating procedure are that it more directly parallels the real-life situation outside of the laboratory and that ROC curves can be generated with less data than in the yes-no procedure.

A major difference exists between the forced-choice procedure and the two outlined above. In the forced-choice procedure, one of two mutually exclusive stimuli are presented during one of N observational intervals. The observer is then instructed to state in which observational interval the signal was contained.

Green and Swets (1966) evaluation of the three different procedures is:

> For a signal and noise of given strengths, and for a given observer, the three procedures yield essentially the same index of sensitivity. Such consistency of results obtained by different techniques is not easy to attain in the measurement of complex physical phenomena, and it has been very rare, perhaps nonexistent, in the measurement of human behavior.

Multiple Observers

Since SDT has typically been used with individuals, the question has arisen as to the applicability of multiple observers. Smith and Wilson (1953) compared the results of two five-member teams with

results for individuals utilizing auditory signals. Initially the results seemed to indicate a greater bias for the multiple observers due to a higher false alarm rate. However, in utilizing more strict control procedures, the authors found that the results of the multiple observers closely approximated the average results of the individual observers. Green and Swets (1966) also report this same finding when comparing the results of two observers with the results of a two member team.

Given the results of these experiments Green and Swets (1966) have concluded that Signal Detection Models are robust-enough to include multiple observers or teams of observers without violating the assumptions or efficacy of the model.

Signal Detection Applications

SDT has been used in a wide variety of applications utilizing explicitly defined behavioral referents as indicators of numerous variables and complex concepts. Physiological pain has often been studied under SDT. The behavioral referents and indicators of pain are of interest due to the complexity and often subjectivity of the "concept of pain."

An early study using SDT was the study of pain in two rhesus monkeys. Weitzman, Ross, Hodos, and Galombos (1961) investigated the tolerance of pain under different dosages of morphine sulfate. The authors thus arrived at "pain thresholds" for the monkeys. In this study, "pain" and "pain thresholds" were defined and controlled by lever presses which controlled the amount of electric shock each monkey received. The behavioral referents for the abstraction "pain"

were defined by read-outs of lever presses and amount of shock tolerated. In this sense the behavioral referents acted as accuracy indicators in that amounts of shock were summated and compared with the subjects' behavior during the presentation of shock.

The evaluation of pain has engendered other SDT studies. Clark and Yang (1974) ignited a controversy by their evaluation of acupuncture utilizing a SDT model of inquiry. In their investigation, Clark and Yang reported that the effect of acupuncture was related to a response bias in the subjects' reporting of pain. In this case, the behavioral referent of pain became a verbal response of a painful sensation or a subject's withdrawal from painful stimuli. Here, the behavioral referent, the verbal report, functioned as both a semantic indicator ("Yes, I feel pain") and as an accuracy indicator ("I feel pain, now, in my shoulder, arm, etc.").

Although the study of physiological pain is greatly different from the study of human needs, it is of interest to ask why the investigators of pain utilized a SDT model for their inquiries. It can be seen that many of the methodological considerations of the study of pain parallel the same considerations in the study of needs. Pain must be viewed as an extremely subjective state where the investigator is totally at the mercy of the subject. What could be viewed as one person's pain might be another's discomfort. In this sense pain is ideographic with (probably) a large variance for most of the population. While there is probably much agreement at the extreme presence (or absence) of pain, there is probably much confusion at intermediate "levels" of pain--when does "pain" start, how "much

pain" is required before an individual admits to it, etc. Also, given the nature of a "painful" stimulus, it is probably safe to assume that many of the conditions under which pain was first experienced, generalize to other "non-painful" situations which complicate and contaminate results obtained under the latter conditions. In this manner, pain can be viewed as an intricate concept which provides many obstacles to those who study it.

The same methodological considerations must be addressed in the study of human needs. Human needs are extremely subjective and ideographic. In this sense it is very difficult to argue that, for example, "curiosity" is or is not a "need" for an individual. In the same sense, there is probably much agreement in the extreme cases. It would be difficult to argue that food is not a biological need (requirement) of the human condition. It is the middle ground which causes consternation. Finally, history effects and generalization create as much havoc in the study of needs as is created in the study of pain.

The use of a SDT model allows the investigator to maintain control of the experimental condition through the presentation of either Signal or Noise observational intervals. "Subjectivity" is thus identified. The use of Noise- and Signal Distributions fits the "agreement-at-extremes" nature of the problem. The overlap of both distributions underscores the confusion between the two distributions. Finally, measures of sensitivity and bias control for extraneous variables which might enter into the research. Thus the use of an SDT model in the study of human needs is as applicable as it is in the study of pain.

Rilling and McDiarmid (1965) utilized a SDT model to measure pigeons' discrimination of stimuli produced by two fixed-ratio (FR) schedules. Without addressing the exact nature of the discriminative stimuli (number of responses in the fixed ratio, time required to emit those responses, etc.) the authors attempted to demonstrate that a stimulus acted as an indicator to the subjects that they were performing under one of two fixed-ratio schedules. Rilling and McDiarmid concluded that "the ability to discriminate ratios is a continuous, not an all or none, process."

The Rilling and McDiarmid study is of interest for three reasons. First, although the discrimination of two fixed-ratio schedules is substantially different from the discrimination of needs and non-needs, the former is probably more difficult. In the Rilling and McDiarmid study, the behavioral referent for both schedules was the pigeon's peck of one of three keys. Given that the same behavioral referent was utilized for both schedules, the subjects were required to attend to various subtleties and nuances of each schedules of reinforcement in order to arrive at a correct discrimination. The discrimination of human needs required corpsmembers and staff to also attend to subtle, fine-grain differences in need and non-need inventory items.

Secondly, as the differences between the fixed-ratio schedules decreased (from FR 50 and FR 15 to FR 50 and FR 47) the correct discrimination of the subjects also decreased. Stated differently, as the overlap between the Signal and Noise distributions increased, the number of errors of the subjects increased. This is a logical conclusion of the SDT model and can be expected in the present investigation.

Finally, the Rilling and McDiarmid study did not attempt to define what aspect of either schedule was the discriminative stimulus for the subjects. Thus, without defining exactly to what the pigeons were responding, the authors were able to demonstrate that the subjects could respond correctly. This is of primary importance to the current study. Given the often ambiguous nature of need definition, it is often difficult to describe or state what the critical dimension of a situation is which prompts a person to say "Yes, this is a need" or "No, this is not a need." However, as the Rilling and McDiarmid study indicated, it is often possible to make such a discrimination even though it is difficult to accurately state why the discrimination was made. In this sense, the empirically derived evidence takes precedence over the verbal behavior of the subject.

In a more recent study, Swets, Pickett, Whitehead, Getty, Schnur, Swets, and Freeman (1979) compared the accuracy of two radiological techniques, computed tomography and radionuclide scanning, utilizing an SDT model. Twelve radiologists viewed samples from both techniques and were asked to diagnose the conditions. The authors concluded that "ROC analysis can be used to measure the accuracy of human diagnostic judgements." Of particular interest in the Swets, et.al., study is the diagnostic aspect of the discrimination task. In the mental health field, the discrimination between a need and non-need is analogous to the physician's diagnosis of health or illness. The implications and consequences of a hit or miss are similar. In the present study, staff and corpsmembers were basically asked to "diagnose" whether or not a given stimulus was in fact a need or not.

Hammerton (1970) compared two groups of subjects in a decision task under two different response conditions--the yes-no response and confidence intervals. Subjects were presented with a two-digit number and required to state whether the number belonged to the Noise population (numbers which had a mean of 40) or the Signal population (numbers which had a mean of 43, 47, and 50). The values of d' under the conditions of the confidence interval responses were less than, but not significantly less than, the values of d' under the condition of the yes-no response class. Hammerton theorized that this was a result of some of the subject's "guessing" when they were unsure. These results are thus consistent with the earlier work of Green and Swets (1966) and lend further support for the use of confidence interval response classes which were utilized in the current investigation.

Ulehla, Conges, and Wackwitz (1967) applied the SDT model to the discrimination process involving conceptual judgements. Subjects were required to discriminate the source of short samples of English texts. The sources were of two types--male-oriented and female-oriented. In a sense, the Ulehla, et.al., study has modified the meaning of the responses. Subjects are no longer responding strictly to the contextual stimuli presented but rather they have been asked to conceptualize the contents as belonging to one of two sets of stimuli (male-oriented/female-oriented). The contextual stimuli presented to the subjects have thus been modified to become behavioral referents for the two classes or concepts under consideration. The authors concluded that the "applicability of SDT to the conceptual task employed... was supported by the equivalence of a' estimates obtained."

In this manner, the Ulehla, et.al., study closely resembles the current investigation where respondents were asked to conceptualize the presentations of contextual stimuli (inventory items) as indicators or behavioral referents of needs or non-needs.

Stenson, Kleinmantz, and Scott (1975) utilized a SDT model to interpret Minnesota Multiphasic Personality Inventory (MMPI) profiles. In this study, 126 MMPI profiles which included all 16 scale values were presented to various groups of interpreters. Interpreters were asked to make several judgements including which profiles represented "definitely normal" and "definitely abnormal" individuals, individuals who "had been hospitalized" and "had not been hospitalized," and those individuals who "probably should be hospitalized" and "probably should not be hospitalized." The authors concluded that the "...assumptions of SDT are robust enough to enable its use in a complex judgement task involving personality variables." The parallel between the Stenson, Kleinmuntz, Scott study and the present are obvious.

Robbin (1980) utilized a SDT model to evaluate clinical interpretations of House-Tree-Person drawings. Her results conformed with the Stenson, Kleinmuntz, Scott results in demonstrating the applicability of SDT in complex, clinical judgements regarding personality variables.

Finally, Price's (1966) review of the literature utilizing a SDT model to investigate the possible relationships between personality and perception concluded the following:

> First, SDT methods use all the information available in the observer's responses. Second, stimuli presented are under the experimenter's control rather than the observer's control....

Third, more precise statements concerning the observer's sensory capabilities are possible.... Finally, independent measures of the observer's sensory and nonsensory contributions to a given perceptual result are expressedly defined features of the method.

Price's remarks again lend support to the use of SDT in applied settings. Price also delineated the "nonsensory contributions" of the observers. This is of importance to the current study in that the discrimination of needs utilizes nonsensory input from the respondents in the discrimination task.

Summary

The United States Air Force Human Resource Laboratory commissioned a team of investigators to evaluate the use of criterion-referenced testing in Air Force training programs. Siegel, Musetti, Federman, Pfeiffer, Wiesen, DeLeo, and Shepperd (1979) performed an extensive review of the literature and compared at least 31 different statistical approaches and research designs in evaluating criterion-referenced training. The authors concluded that:

All (approaches) suffer from one or more conceptual or statistical drawbacks. There appears to be no agreement on a preferred approach... (one issue seems to be the type of reliability that is is important for criterion-referenced tests. Part of the problem may lie in the desire to mimic non-referenced tests when criterion-referenced tests are under consideration. Another issue seems to be the type of reliability that is important for criterion-referenced tests. Why should criterion-referenced reliability march to the music of non-referenced reliability? Perhaps ... (it) hears a different drummer.

Having dismissed many of the traditional approaches for various inadequacies, Siegel, et.al., suggested that the Air Force adopt a Signal Detection model for evaluating trainees performance. The authors outlined a detailed SDT approach which the Air Force could utilize in evaluating its trainees such that two distributions of

trainees exist, masters and non-masters. The authors concluded that:

> SDT is less subject to artificial constrictions... than the usual statistics... the approach is both diagnostic and prescriptive... The d' statistic is easily interpretable....

As can be seen from the above, other investigators and other agencies have evaluated the applicability of the SDT model for its use in applied settings and have found the SDT approach more attractive than traditional procedures. The benefits of the SDT approach in criterion-referenced training for the Air Force can be applied to the identification of corpsmembers' needs in Job Corps.

Within the context of this study, one goal of the mental health program in Job Corps is the identification of those mental health needs which are institutionally compatible and institutionally conflicting. The current data available to Job Corps of corpsmembers' needs is reactive in nature and pathological in design. At best the data can be viewed as semantic indicators.

This study recognizes that the context-dependent nature of needs requires the use of behavioral referents which are of both a semantic and accuracy nature. The complexity of the need-situation interaction requires a non-traditional analytic procedure which identifies those behaviors which promote successful completion of the corpsmembers' training. The development of the Needs Analysis Inventory utilizing a Signal Detection model should assist Job Corps officials in their task of aiding corpsmembers in their progression through the program.

CHAPTER III

THE PROCEDURE, THE DATA, AND

THE TREATMENT OF THE DATA

The Data

The data of this research are of two kinds: primary data and
secondary data. The nature of each of these two types of data is
described below.

The primary data. One set of primary data was the responses of
mental health consultants and corpsmembers to a preliminary survey
delineating the needs of corpsmembers. A second set of primary data
was the responses of high school students to preliminary, developmental
drafts of the inventory. A third set of primary data was the responses
of corpsmembers, center staff and mental health consultants to the
Needs Analysis Inventory.

The secondary data. The secondary data consisted of Job Corps
Health statistics, published studies, texts, and unpublished disserta-
tions and theses concerned with needs analysis, problem identification,
Signal Detection Theory, and inventory construction.

The Research Methodology

Given that the data collection procedures utilized a question-
naire and an inventory, Kerlinger (1973) would best describe the
research methodology as survey research. However, it could be argued
that this research can be described by Katz' (1953) term--exploratory

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field study--in that the proposed research attempts to "seek what is" rather than "predicting relations" to be found.

The Research Paradigm

The research paradigm utilized in the investigation was a Signal Detection model proposed by Swets, Tanner, and Birdsall (1964) in which there exists at least two explicitly defined, mutually exclusive behaviors associated with two independent states of the environment.

The decision process regarding the identification (or detection) of a mental health need or problem was viewed as a binary decision with four specified conditions and at least one alternative condition to each of the specified conditions. The four specified conditions were: two correct decisions--stating that a problem or need existed when it actually did exist and stating that no problem or need existed when in actuality neither did, and two incorrect decisions--stating that a problem or need existed when it actually did not and stating that a problem or need did not exist when it actually did. For each of these four specified conditions, at least one alternative condition was possible. The limiting case was delineated such that for the two correct decisions--when a problem or need actually existed, an alternative problem or need was specified rather than the stated problem or need and no alternative needs or problems were specified when no stated problem or need existed. For the two incorrect decisions, the limiting case was stating that an alternative need or problem existed when neither the alternative need or problem nor the stated need or problem existed and stating that an alternative need or problem did not exist when one actually did (Refer to Figure 1).

Corpsmember States A
Problem or Need Exists

		Need or Problem Actually Exist	Need or Problem Does Not Exist
	Detects Problem Or Identifies Need	Hit Correctly Identifies Behavior as Stated Problem or Need	False Alarm Incorrectly Identifies Problem or Need As Existing When It Does Not
Corpsmember, Center Staff, and Mental Health Consultant		Correctly Identifies Behavior As Alternative Problem or Need	Incorrectly Identifies Alternative Problem or Need as Existing When It Does Not
	Do Not Detect Problem Or Identifies Need	Miss Does Not Attend To Existing Problem Or Need	Correct Rejection Correctly Rejects Behavior as Need Related Or Problematic
		Does Not Attend To Alternative Needs Or Problem Which Exists	Correctly Rejects Behavior As An Alternative Need Or Problem

Figure 1.   Schematic Representation of Proposed Method of Identification of Mental Health Needs and Problems.

The 2 x 2 matrix is common to the Signal Detection experiments. These four conditions with specified alternatives can be described as:

Hit: a correct decision has been made; an actual problem or need has been identified as the presenting, stated problem or as an alternative problem or need;

False Alarm: an incorrect decision has been made; the stated problem or need does not exist but it has been identified as existing; also, no alternative need or problem exists but one has been specified;

Miss: an incorrect decision has been made; an actual need or problem exists but has not been identified as a problem or need; also, an alternative need or problem exists but has not been identified as such;

Correct Rejection: a correct decision has been made; a need or problem does not exist and has been correctly identified as such; no alternative needs or problems exist and have been identified as such.

The Signal Detection paradigm utilizes several statistics. The first statistic is d', which represents the difference between the means of the two populations, the noise population (NP) and the signal-noise population (SN). The two populations can be viewed as a mental-health-problem-or-need-exists-population (SN) and as a no-mental-health-problem-or-need-exists-population (NP). The two populations contain a certain degree of overlap. Figure 2 schematically represents the two populations.
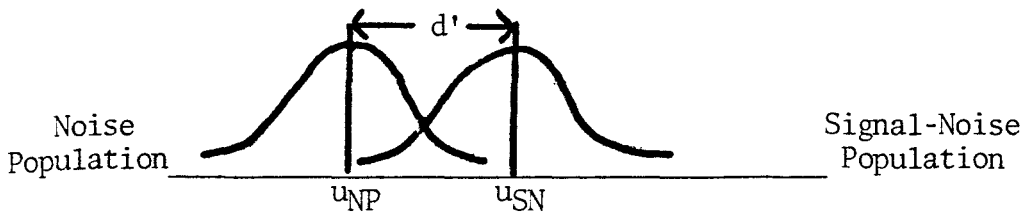
Figure 2. Schematic Presentation of Noise/Signal-Noise Populations and d'.

Given this, d' is thus defined as:

$$d' = \frac{u_{SN} - u_{NP}}{\sigma}$$

where:

u_{SN} = the mean of the signal-noise population

u_{NP} = the mean of the noise population

σ = the variance of the populations

d' = the difference between the two means.

Thus, d' is a measure of the degree of overlap between the two distributions and is utilized as a measure of detectability or sensitivity (Egan, 1975). In this investigation, the noise distribution was represented by those inventory items which did not exhibit a mental health need or problem while the signal-noise distribution was represented by those inventory items which did exhibit a mental health need or problem (Refer to Figure 3).

d' is typically calculated by utilizing Hit Rates (HR) and False Alarm Rates (FAR) and assessing tables developed by Elliot (1964). Hit Rates are defined as:

$$H.R. = \frac{Hits}{Hits + Misses}$$

while False Alarm Rates are defined as:

$$F.A.R. = \frac{False\ Alarms}{False\ Alarms + Correct\ Rejections}$$

Correct Rejection Rates (C.R.R.) and Miss Rates (M.R.) are cal-culated in similar fashions and are related to Hit Rates and False Alarm Rates such that:

C.R.R. = 1 - F.A.R. and

M.R. = 1 - H.R.
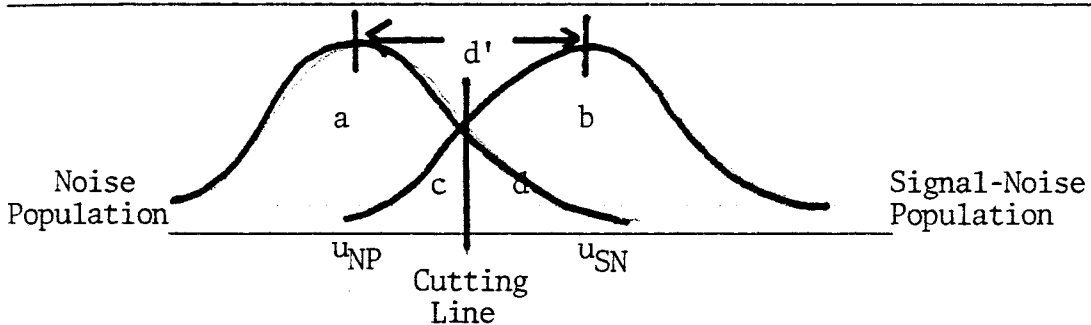
where:

a = Correct Rejection (noise population)
b = Hit (signal-noise population)
c = Miss
d = False Alarm

Figure 3. Relationship Between the Four Conditions of Signal Detection Theory and the Noise/Signal-Noise Distributions.

While d' is the measure of sensitivity, accuracy of responses can be determined as:

Accuracy = ½(Hit Rate + Correct Rejection Rate).

Accuracy thus includes both correct decisions. "Chance" accuracy

is typically considered to equal .50, or stated differently a "50-50" or 50% accuracy rate would be expected by chance alone.

Another statistic within the SDT paradigm is β, which is an index of response bias. Response bias or β, is an index which refers to how strictly a criterion was adopted by a respondent. β is measured on a scale of .000 to 2.000 with 1.000 equaling the point of no bias, .000 to 0.999 equaling a bias toward "Yes", or a lax criterion and 1.001 to 2.000 equaling a bias to "No" or a strict criterion (Karp and Layng, 1980). β is determined from tables developed by Hochhause (1972) and found in Karp and Layng (1980) such that:

$$\beta = \frac{B\ (Hit\ Rate)}{B\ (False\ Alarm\ Rate)}$$

By utilizing β, it is possible to determine if respondents maintain the same criterion for various categories of questions or if the criterion has shifted (become more or less stringent) given the types of inventory items.

It is also possible to determine if subjects maintained a preference for a given response. Preference is defined as:

$$Preference = \frac{HR\ +\ FAR}{2}$$

Typically, if the preference rate is greater than .50, this would indicate a preference for a "Yes" response. If the preference is less than .50, this indicates a preference for a "No" response.

Finally, the Signal Detection paradigm also yields Receiver Operating Characteristic (ROC) curves which allow for the comparison of Hit Rates and False Alarm Rates (Swets, et.al., 1964). ROC curves plot the probability of a "hit" given a signal-noise presentation

(p(H/SN)) versus the probability of a False Alarm given a noise presentation (p(FA/NP)). By plotting ROC curves, it was possible to evaluate the basic strategies utilized by specific individuals in identifying the mental health needs and problems of the corpsmembers. Figure 4 is an example of ROC curves.

It can be seen that the use of a Signal Detection paradigm allows for:

1. detecting the degree of sensitivity of a subject to a specific stimulus,

2. the definition of cutting lines, and

3. defining the specific strategies of each subject towards the stimulus in identifying whether that stimulus is signal or noise.

Specific Treatment of the Data for Each Subproblem

Subproblem one. The first subproblem was to identify categories of mental health needs and problems specific to corpsmembers from which inventory items were developed.

THE DATA

The data collected for subproblem one were: (1) the frequencies and types of mental health problems found at a Job Corps Center as depicted by actuarial records of medical, disciplinary, and administrative discharges, (2) the responses of the mental health consultants and corpsmembers to a questionnaire, requiring time to select among a list of possible health needs of an "ideal" successful corpsmember graduate, those needs which they consider to be descriptive, (3) the types and frequency of problems for which corpsmembers were seen by

the center counseling staff, and (4) unstructured interviews with center staff and corpsmembers.

THE LOCATION OF THE DATA

FOR THE IDENTIFICATION OF MENTAL HEALTH PROBLEMS

The Job Corps site designated as the developmental site for this research was the Cincinnati Center, in Cincinnati, Ohio. Records of the medical, disciplinary, and administrative discharges are kept in the respective disciplines files. National data addressed to this point were found in the Hayman and Frank study (1979).

THE MEANS OF OBTAINING THE DATA

FOR THE IDENTIFICATION OF MENTAL HEALTH PROBLEMS

Charles Hayman, M.D., Director of the National Health Office for Job Corps, and Donald DuBois, Ph.D., formerly the Director of Mental Health for Job Corps consented to the release of the data. Commadore Jones, Ph.D., Director of Job Corps' Region V consented to and assisted in the release of the data. Mr. Robert Jackson, Center Director of the Cincinnati Job Corps Center, and Mr. Robert Gesier, formerly the Director of Residential Living for the Cincinnati Job Corps Center consented to and assisted in the release of the data. Letters of transmittal can be found in Appendix A.

THE TREATMENT OF THE DATA

FOR THE IDENTIFICATION OF MENTAL HEALTH PROBLEMS

How the Data was Screened

In order to determine mental health problems as depicted by actuarial data, all medical, disciplinary, and administrative termina- tions from July 1, 1978 to June 30, 1979 was reviewed. This time

period is consistent with the time period used in the Hayman and Frank (1979) study. Interviews with the mental health consultant, residential advisor, counseling staff and corpsmembers were also conducted.

How the Data was Analyzed

The actuarial data from the developmental site were compared to the national statistics reported in Hayman and Frank (1979). A chi-square goodness-of-fit test was performed in order to determine whether or not the data from the developmental site were consistent with the data reported nationally.

The chi-square goodness-of-fit formula used was the Pearson Chi-Square such that:

$$X^2 = \Sigma \ \frac{(f_{oj} - f_{ej})}{f_{ej}}$$

with (J-1) degrees of freedom where:

f_{oj} = obtained frequency

f_{ej} = expected frequency

Those categories of mental health problems found at the developmental site which had no corresponding category of national data were simply reported in rank-order of occurrence.

The data from interviews conducted at the developmental center were summarized and reported.

THE MEANS OF OBTAINING THE DATA

FOR IDENTIFYING MENTAL HEALTH NEEDS

A questionnaire was developed asking mental health consultants and corpsmembers to select from a list of potential health needs,

those needs which they consider to be the most descriptive of the successful Job Corps graduate. The same questionnaire was administered to national mental health consultants to Job Corps and corpsmembers at the developmental site.

THE TREATMENT OF THE DATA

Questionnaire Construction

Questionnaire items identifying health needs were developed utilizing several sources. Questionnaire items were consistent with the currently available demographic and statistical data on placement of Job Corps graduates. Need related categories developed at the National Institute of Health for the Technicon Hospital Information System were an additional source for questionnaire items. A representative list of the content areas of the needs-related questionnaire items is as follows:

age	coping skills used by emotional
sex	reactions to stress
length of stay in	behavioral reactions to stress
Job Corps	sources of emotional support
type of placement	defense mechanisms used
communication skills	ability to develop relationships
problem solving abilities	primary source of emotional support

A copy of this questionnaire can be found in Appendix 2.

How the Data Were Screened

All Questionnaires were screened in order to eliminate those quesionnaires which were improperly completed.

How the Item Analysis Was Made

For those questionnaire items involving ordinal, interval, and ratio scales (i.e., length of stay in Job Corps, age, etc.) ranges, means, and standard deviations were computed.

For those questionnaire items involving nominal and ordinal data (i.e., defense mechanism used, problem-solving abilities, emotional reactions to stress, etc.) data were ranked according to frequency with category one being the most frequent.

How the Data Were Interpreted

The actuarial data from the administrative, disciplinary, and medical discharges were interpreted as defining the mental health problems of corpsmembers.

The data from the questionnaire delineating health needs were interpreted as defining the mental health needs of corpsmembers.

Subproblem Two. The second subproblem is to construct an inventory utilizing a Signal Detection model based on the categories of mental health needs and problems which will identify specific mental health needs and problems of corpsmembers.

THE DATA NEEDED

The data required were the data gathered in subproblem one, categories and frequencies of mental health problems as defined by the actuarial data and the categories of mental health needs as defined by the responses of the mental health consultants, center staff, and corpsmembers to the questionnaire delineating health needs.

THE MEANS OF OBTAINING THE DATA

Both sets of data were available at the completion of subproblem one.

THE TREATMENT OF THE DATA

Item Construction

Inventory items were developed for each category of (a) mental

health needs as delineated by the responses of mental health consultants, center staff, and corpsmembers to the initial questionnaire, and (b) mental health problems as defined by the actuarial data in the center files.

For each category of mental health needs and problems, the investigator established the critical dimension(s) defining the specific category. Individual inventory items were then developed for each critical dimension and for all combinations of critical dimensions for every category of mental health needs and problems.

Three different sets of questions were written for each category. These sets consisted of:

(1) Those items which most individuals would consider to be descriptive of a problem or need,

(2) "Blanks," or those items which most individuals would not consider to be descriptive of a problem or need, and

(3) Those items which may or may not be descriptive of a problem or need (the overlap between the two distributions).

Response Categories

The Signal Detection procedure of confidence intervals (Swets and Green, 1964) was utilized for the response categories of the Needs Analysis Inventory. The response categories were:

_____Definitely a Need (Problem)

_____Probably a Need (Problem)

_____Could be a Need (Problem)

_____Possibly Not a Need (Problem)

_____Probably Not a Need (Problem)

_____ Definitely Not a Need (Problem)

Developmental Testing

Developmental drafts of the Needs Analysis Inventory were tested with two different groups of adolescents. Items were tested for (a) readability, (b) content, (c) sentence structure, (d) comprehension, and (e) match between item and category.

Determination of Noise and Signal-Noise Presentations

Inventory items were evaluated by a panel of seven raters knowledgeable of Job Corps and mental health. The panel established whether or not an inventory item should be considered as a Noise presentation or as a Signal-Noise presentation. Inventory items were defined as Signal-Noise items by an interrater reliability of .71 (5/7). Those inventory items which did not received such a rating from the panel were used in the inventory as the overlap between the two distributions.

Subproblem three. The third subproblem is to utilize a Signal Detection Theory model to analyze and to interpret the data in order to determine how consistently the respondent groups have identified specific mental health problems and needs.

THE MEANS OF OBTAINING THE DATA

The data were gathered in two phases. A control group of 16 Clemente High School students completed the inventory in September, 1980. This student group served the dual function of final developmental testing for the inventory and as acting as a control group for the corpsmembers.

In October, 1980, the inventory was administered to 75 corpsmembers

and 34 staff members at the Cincinnati Job Corps Center, Cincinnati, Ohio. Letters of transmittal can be found in Appendix .

HOW THE INVENTORY WAS ADMINISTERED

The inventory was administered to all corpsmember participants during one session. All corpsmember participants met in the center's lecture hall. Approximately one hour was needed to complete the inventory. Instructions included the following:

(1) The purpose of the inventory is to attempt to identify the mental health needs and problems of corpsmembers as they perceive them,

(2) there are no "right" or "wrong" answers to the questions, the purpose is simply to ascertain what each person thinks is accurate, and

(3) participation is completely voluntary, names of participants will not be collected.

How the Inventory Responses Were Screened

Each returned inventory was screened for completeness and legibility. Only those inventories properly completed were utilized in the needs analysis/problem identification.

How the Inventory Was Analyzed

Respondents to the inventory were divided into five groups. These groups were:

(1) corpsmembers from the Cincinnati Center,

(2) staff members from the Cincinnati Center,

(3) the mental health consultants to Job Corps,

(4) students from Clemente High School, Chicago (the control

group), and

(4) all the above.

Several iterations of analyses were performed for the above respondent groups. The corpsmembers', staffs' mental health consultants' and control groups' responses were analyzed for each category of inventory items. In addition, all respondents were treated as one class (group 4, above) and all responses were analyzed for each category of inventory items. Finally, the entire inventory was analyzed across categories for all responses.

Analysis included the use of d', Hit Rates, False Alarm Rates, and generation of ROC curves for the four respondent groups by inventory categories and for the entire inventory. In addition Response Bias, Preferences, and Accuracy were calculated for the four respondent groups by inventory categories and also for the entire inventory.

How d' Was Calculated

In order to establish d', the six categories of (1) Definitely a Need (Problem), (2) Probably a Need (Problem), (3) Could be a Need (Problem), (4) Possibly Not a Need (Problem), (5) Probably Not a Need (Problem), and (6) Definitely Not a Need (Problem) were collapsed into two categories of:

1) Need (or Problem) Identified or "Yes" response and

2) No Need (or Problem) Identified, or "No" response.

Hit rates and False Alarm rates for respondents were calculated. With these two calculations it was possible to determine d' from tables developed by Elliot (1964) for all respondents to all categories of items and for the entire inventory as a whole.

CHAPTER IV

THE RESULTS OF

THE DATA

Developmental Site.   The Job Corps Center chosen as the develop-
mental site for the Needs Analysis Inventory was the Cincinnati Job
Corps Center in Cincinnati, Ohio.   The Cincinnati center has a capacity
of 225 corpsmembers of which 148 are male and 77 are female.   Residen-
tial accommodations are provided for the male corpsmembers only.
Female corpsmembers commute from the metropolitan Cincinnati area.
There are approximately 40 staff members at the center.

Subproblem one. The first subproblem was to identify
categories of mental health needs and problems specific to corpsmembers
from which inventory items were developed.

THE DATA

The data collected for subproblem one were: (1) the responses
of the mental health consultants and corpsmembers to a questionnaire
requiring them to select from a list of possible health needs, those
needs which they considered to be descriptive of an "ideal, successful
corpsmember, (2) the frequencies and types of mental health problems
as depicted by the actuarial records of the medical, disciplinary,
and administrative discharges, (3) the types and frequencies of problems
for which corpsmembers were seen by the center counseling staff, and
(4) unstructured interviews with center staff and corpsmembers.

"Ideal, Successful Corpsmember." A questionnaire was administered to the National Mental Health Consultants for Job Corps at the National Health Colloquium in Arlington, Virginia, in February, 1980. The questionnaire was adapted from a reporting structure used at the National Institute of Health Clinical Center and developed by Technicon Medical Information Systems, Inc. The purpose of the questionnaire was to define categories of needs for which inventory items would be written. A copy of the questionnaire is contained in Appendix . Of the twenty Mental Health Consultants present at the Colloquium, 10 returned completed questionnaires. Demographically, the Mental Health Consultants viewed the "ideal" corpsmember as a 19.9 year old corpsmember who had no dependents and whose length of stay in Job Corps was approximately one year. These data are depicted in Table 1.

The mental health consultants described the successful corpsmember as single with no children, whose scholastic achievement was satisfactory. The ideal corpsmember's primary sources of support while in Job Corps were the Residential Staff and Counseling Staff. The relationship which the successful corpsmember had with both his(her) family of origin and others in general tended to be disharmonious but functional. They tended to be proud of their accomplishments, pleased with themselves yet realistic and were able to express their feelings and needs. Their attitude towards their experience in Job Corps was realistic, adaptive, and self-confident. The successful corpsmember coped with stress by using repression and emotional isolation while they were able to resolve routine problems on their own and functioned well in crises.

Table 1

Responses of Mental Health Consultants to Preliminary
Questionnaire Identifying Categories of Needs

| Category | Responses of Mental Health Consultants | | |
	Range	Mean	Standard Deviation
Age (in years)	18-21	19.9	0.83
Length of stay (in months)	6-15	11.4	2.34
Number of Dependents	0-1	0.2	0.87

A rank-order of the mental health consultants' responses to the categories of health needs describing the ideal corpsmember is presented in Table 2.

In April, 1980, the same preliminary questionnaire was administered to 20 corpsmembers at the Cincinnati Job Corps Center. Of the twenty questionnaires administered at the center, three were never returned and three were eliminated because they were improperly completed. Thus 14 corpsmembers properly completed and returned the preliminary questionnaire delineating mental health needs of the ideal corpsmember. Demographically, the corpsmembers viewed the "ideal, successful" corpsmember as a 19.5 year old student with one dependent, whose length of stay in Job Corps was approximately one year. These data are depicted in Table 3.

The corpsmembers described the "successful" corpsmember as single with one dependent and whose scholastic achievement was satisfactory. The "ideal" corpsmember's primary sources of support while in Job Corps were the Counseling Staff, Center Staff (non-teachers, non-R.A.s), and other corpsmembers. The relationship the successful corpsmember had with his/her family of origin and others in general tended to be seen as warm and caring, supportive and dependable. The "ideal" corpsmember was seen as proud of his/her accomplishments, pleased with self, self-assured, and realistically hopeful about themselves. The ideal corpsmember was described as self-confident, adaptive, capable, and friendly. The successful corpsmember possessed adequate socialization skills and primarily used rationalization as a means of coping with stress. They resolved routine problems on their

Table 2

Response of Mental Health Consultants to Preliminary
Questionnaire Identifying Categories of Needs of Corpsmembers

Category	Response[a]
Scholastic Achievement	
Satisfactory	10
All other categories	0
Marital Status	
Single	10
All other categories	0
Sources of Support	
Resident Assistants	6
Counseling Staff	5
Other Corpsmembers	2
Friends	2
Teachers	2
All other categories	0
Relationships with Others	
Disharmonious but functional	8
Mutually Supportive	5
Dependable	4
Warm and Caring	4
Independent	3
Nonsupportive	2
Unable to Assist Others	2
All other categories	0
Emotional Reactions	
Proud of Accomplishments	6
Pleased with self	6
Expressed Needs	6
Expressed Feelings	4
Realistic	4
Appropriate Anxiety	4
Self-Assured	2
Challenged	2
All other categories	0

Table 2 (continued)

Category	Response[a]
Attitude Toward Job Corps	
Adaptive	6
Capable	6
Self-confidence	6
Realistic	6
Satisfactory	4
Sense of Humor	2
Insightful	2
Sensitive	2
Friendly	2
All other categories	2
Coping with Stress	
Repression	4
Emotional Insulation	3
Denial	2
Fantasy	2
Identification	2
All others	0

[a]More than one response per item per person was given.

Table 3

Responses of Corpsmembers to Preliminary Questionnaire
Identifying Categories of Needs

| | Responses of Corpsmembers | | |
Category	Range	Mean	Standard Deviation
Age (in years)	18-21	19.5	0.90
Length of stay (in months)	3-18	11.4	2.97
Number of Dependents	0-3	1.03	1.52

own or sought out help for problem solving.

A rank-order of the corpsmembers' responses to the categories of health needs describing the ideal corpsmember is presented in Table 4.

Actuarial Data. In April, 1980, actuarial data consisting of the administrative, medical, and disciplinary discharges at the Cincinnati Center were assessed by the investigator. Also, the types and frequencies of problems for which corpsmembers were seen either by the counseling staff or for disciplinary problems were also assessed. During the time period under consideration, the Cincinnati Center had not reported any administrative, medical, or disciplinary discharges. However, all counseling records were assessed and sum- marized by members of the Cincinnati Job Corps Center at the request of the investigator. Of the 231 corpsmembers at the center at that time, 28, or 12%, of the students were being seen by the center coun- seling staff. The types of problems and issues for which corpsmembers were seen by the counseling staff were compared (when possible) with national data compiled by Hayman and Frank (1979). A Pearson Chi- Square Goodness-of-Fit test was performed for those categories of data for which both national and center data were available. Table 5 presents this data.

For those problems for which no national data were available, a simple rank-order of problems was obtained. These findings are reported in Table 6.

Unstructured Interviews. In April, 1980, a series of unstructured

Table 4

Responses of Corpsmembers to Preliminary Questionnaire
Identifying Categories of Needs of Corpsmembers

Category	Response[a]
Scholastic Achievement	
Excellent	5
Satisfactory	14
Unsatisfactory	2
Marital Status	
Single	14
Married	1
Divorced	1
All other categories	0
Sources of Support	
Counseling Staff	14
Other Center Staff	14
Other Corpsmembers	13
Resident Assistants	5
Family	2
Friends	2
All other categories	0
Relationships with Others	
Warm and Caring	14
Supportive	12
Dependable	10
Independent	7
Stable	4
Nonsupportive	3
Disharmonious but functional	3
Unable to assist others	2
Distant and detached	1
All other categories	0
Emotional Reactions	
Proud of Accomplishments	14
Realistically	14
Pleased with Self	13
Challenged	11
Expressed Needs	8
Expressed Feelings	8
Self Assured	8
Inquisitive	7
Angry	6
Appropriately Anxious	2
All Other Categories	0

Table 4 (continued)

Category	Response[a]
Attitudes Toward Job Corps	
Adaptive	14
Self-Confident	14
Capable	12
Sense of humor	12
Friendly	12
Mature	7
Stable	5
Warm	2
Assertive	2
Optimistic	2
All other categories	0
Coping with Stress	
Rationalization	14
Projection	8
Emotional Insulation	5
Identification	5
Withdrawal	4
Denial	4
Acting-out	1
All other categories	0

[a]More than one response per item per person was given.

Table 5

Chi-Square Goodness-of-Fit Test Comparing Type and
Frequency of Mental Health Problems at Cincinnati
Job Corps Center with National Data

Category of Mental Health Problem	Obtained Frequency Cincinnati Job Corps Center	Expected Frequency From National Data
Confused, Disoriented	3	19
Depressed, Suicidal	2	6
Drug Abuse	5	8
Obesity	1	1
Stress Reaction	1	6
Violent, Combative	8	7

X^2 = 21.58
df = 5
significance = .001

Table 6

Types and Frequencies for Which Corpsmembers Were Seen by
Counseling Staff for Which no National Data Were Available

Reason Corpsmember was Seen By Counselors Staff	Frequency
Unexcused Absence from classes	1
Job Placement	1
Vandalism	1
Theft	2
Assertiveness Training	3

interviews were conducted by the investigator with staff and corps-
members of the Cincinnati Center. The purpose of the interviews was to
obtain staff members' and corpsmembers' impressions of what the needs
and problems of corpsmembers are. The investigator had hoped that the
subjective, ideographic data obtained through these interviews would
corroborate with--or at least be consistent with the actuarial data
and responses to the initial questionnaire. Four hours of interviews
were conducted with five staff members (one administrator, one counselor,
two teachers, one nurse) and four hours of interviews were conducted
with small groups of corpsmembers (approximately 45 corpsmembers).

Staff comments. Comments of the center staff regarding what
the mental health needs of the corpsmembers are consisted of the
following:

- corpsmembers needed to be "orderly, realistic, and receptive
  to the center rules and regulations"; they must "buy-into"
  the system;

- corpsmembers responded best when there were "clearly, defined
  limits."

- corpsmembers needed to be "motivated to work", "given respon-
  sibility", and must be taught to "delay gratification."

- corpsmembers need to "feel important," need "positive feedback
  especially about their work", and function best when they (the
  corpsmembers) view the center as a "family atmosphere;"

- finally, corpsmembers need to be "taught how to be tactful",
  engaged in more "abstract thinking," and respond "differentially
  to problems."

Staff comments regarding the mental health problems of the corps-members consisted of:

- "too impatient", especially about "a problem";

- "ventilate too much";

- "drugs", especially "alcohol and marijuana";

- and "too many bad attitudes."

Corpsmember comments regarding the mental health needs of corps-members consisted of:

- "must learn to follow the rules",

- become more "concerned with school", especially with the match between their course of study at the center and if there is "an actual job out-there";

- need to be more "serious, and realistic",

- "put-up-with different kinds of people", especially knowing "who to trust", and to whom they should "say 'NO' to."

Corpsmembers' statements regarding the mental health problems of corpsmembers consisted of:

- "too much fighting"

- "too much drugs"

- "expectations are built-up, then let down."

- too much "pressure to do well"

- discipline is "not strict enough"

- "bored", "not enough leisure time activities," and

- "staff is always leaving" (staff turnover).

Given the above sets of data, the following categories and sub-categories of mental health needs and problems were defined:

1. Personal Needs

    A. Marital Status
    B. Financial Concerns
    C. Privacy
    D. Length of Stay in Job Corps
    E. Personal Belongings

2. Individual Needs

    A. Adaptability
    B. Assertiveness
    C. Problem-Solving Ability
    D. Competence
    E. Leadership
    F. Academics

3. Support Systems

    A. Peer Support
    B. Adult (staff) Support

4. Sexuality

    A. Sexual Relations
    B. Birth Control

5. Substance Abuse

    A. Alcohol (Beer and Wine)
    B. Alcohol (all others)
    C. Marijuana

6. Problems

    A. Stress
    B. Vandalism
    C. Depression
    D. Psychosis

Subproblem two. The second subproblem was to construct an inventory utilizing a Signal Detection model based on the categories of mental health needs and problems.

THE DATA

The data required were the categories of mental health needs as defined by the mental health consultants, center staff, and corpsmembers,

and the categories of mental health problems as defined by the actuarial data.

Construction of Inventory Items. Sets of inventory items were written for each category of needs and problems. In order to ensure that differential responses to categories of items would be achieved, three classes of inventory items were written for each category. These classes of items were:

1. Those items which most individuals could consider as descriptive of a need or problem for that category of inventory items,

2. Those items which most individuals could consider as NOT descriptive of a need or problem for that category of items, and

3. Those items which were intentionally written as ambiguous items so that most individuals could consider them as either descriptive or NOT descriptive of a need or a problem for that category of inventory items.

These three classes of inventory items do not reflect the actual Noise and Signal-Noise distributions achieved for the inventory. Tables 7-12 exhibit the individual items for each category of mental health needs and problems. Tables 7-12 do not reflect the actual Noise and Signal-Noise populations.

Response Categories. The Signal Detection procedure of confidence intervals was utilized for the response categories. Initially, six response categories were formulated as:

____Positive, this is a need

____Fairly Certain, this is a need

____Unsure, but probably a need

____Unsure, but probably not a need

____Fairly Certain, this is not a need

____Positive, this is not a need

and

Table 7

Inventory Items Corresponding to the Category of Personal Needs

At graduation from Job Corps, corpsmembers should be single or never married.

Private areas should be provided for corpsmembers to talk with center staff about personal problems.

Corpsmembers need a place which they can consider as their own.

Corpsmembers personal belongings should be kept in a locked cabinet.

Corpsmembers need time to be alone.

In order to get the most from their training corpsmembers should stay at a center for at least one year.

In order to get the most out of their training, corpsmembers should stay at the center for at least six months.

At graduation from job corps, it is important that a corpsmember be required to financially support himself or herself.

Corpsmembers should not have to worry about the safety of their personal belongings.

Table 8

Inventory Items Corresponding to the Category of Individual Needs

Before they arrive at the center, corpsmembers should be told how much they will be actually paid while they are at the center.

Corpsmembers should be taught how-to-memorize in order to improve their study habits.

A corpsmember will often not know how to stand-up for himself.

Corpsmembers should know at least two different ways of identifying problems.

A corpsmember might think that the only way to get what he wants is by yelling and fighting.

If a corpsmember is doing well academically and vocationally, it is not important that he or she follow the rules of the center.

Corpsmembers should be able to outline the basic steps which they use in order to achieve the major goals which they have set for themselves.

If a rule "goes against" a corpsmember's principles, that corpsmember should not be made to follow that rule.

Corpsmembers need to attend all classes.

In order for a corpsmember to get the most out of Job Corps, it is important that the corpsmembers follow all the rules of the center.

If a corpsmember is doing well in a class, then he or she should not have to go to that class regularly.

It is particularly important that new corpsmembers completely follow all the center rules and regulations.

Since most rules are "made to broken" it is not important that corpsmembers follow them.

Corpsmembers should like their school work.

It is important that corpsmembers are able to detect progress in their vocational interests.

It is important that corpsmembers are proud of their work.

Corpsmembers' expectations of the center's equipment and facilities should conform with the actual equipment and facilities at the center.

Corpsmembers must learn which rules of the center can be ignored and which rules must always be followed.

Corpsmembers must learn to cooperate with people whose ideas are greatly different from their own.

It is important that corpsmembers are proud of their scholastic abilities.

It is not necessary for corpsmembers to demonstrate competency in their school work.

Table 8 (continued)

Corpsmembers need assertive-
ness training.

Corpsmembers should be able to
specify specific goals which
they hope to achieve while they
are at the Job Corps Center.

Corpsmembers should be able to
state at least two different
procedures for identifying
problems.

Corpsmembers' expectations of
center life should conform
with the actual conditions of
center life.

Corpsmembers should be able
to state the difference between
being assertive and being
aggressive.

It is particularly important for
new corpsmembers to completely
follow all the center rules and
regulations.

Corpsmembers should be able to
identify a job or skill which
they will find as personally
satisfying.

Corpsmembers should be given
the opportunity to lead others
during some part of their
center life.

Corpsmembers often have dif-
ficulty knowing what they
should study, for a test.

During the first month at a
center, corpsmembers often
question if they have made a
correct decision by joining
Job Corps.

Table 9

Inventory Items Corresponding to the Category of Support Systems

Weekly sessions with members of the counseling staff are necessary for new corpsmembers during their first three months at the center.

A corpsmember should know how to say "no" to a friend without losing that person's friendship.

Even though it is difficult, corpsmembers must learn how to "say no" to their friends.

Corpsmembers need to develop a relationship with an adult staff member in order to have a source of adult support while they are at the center.

A corpsmember should be taught to view other corpsmembers as a primary source of support while they are at the center.

Frequently corpsmembers are afraid to "say no" to a friend because they do not want to lose that friendship.

Turnover of center staff helps corpsmembers to learn to live in the "real world."

The quality of the center staff is often not appreciated or noticed by the corpsmembers.

Corpsmembers should be taught how to end friendships with people whom they no longer want to be friends.

Often corpsmembers agree to do something because all their friends are doing it.

Corpsmembers should be taught how to make friends.

Center staff turnover effects corpsmembers.

Table 10

Inventory Items Corresponding to the Category of Sexuality

If two corpsmembers want, they should be allowed to engage in sexual relations.

Some corpsmembers sexual orientation is homosexuality.

Corpsmembers need explicit information in birth control procedures.

Corpsmembers should be aware of three different means of birth control and the relative effectiveness of each.

Information regarding the means of obtaining at least two different types of birth control should routinely be made available to all corpsmembers.

Although often sexually active, many corpsmembers still have alot to learn about personal relationships.

Corpsmembers need explicit information and instructions in the cultural norms of human sexuality.

Information regarding how to obtain abortions should be provided to any corpsmember.

Corpsmembers need explicit instructions in the biology of human sexuality.

Table 11

Inventory Items Corresponding to the Category of Substance Abuse

Some corpsmembers will occasionally drink "hard liquor" (bourbon, gin, vodka, etc.) off campus, once or twice a month or less.

Once in awhile a corpsmember will sell marijuana to his friends in order to make money.

Some corpsmembers will drink hard liquor (bourbon, gin, vodka, etc.) every Friday and Saturday night, off campus.

Often, corpsmembers will drink beer or wine every Friday and Saturday night, off campus

Some corpsmembers will bring beer or wine on campus even though they know it is against the rules.

Corpsmembers who can "handle their liquor" (drink without getting drunk) should be allowed to drink off campus.

Frequently a corpsmember will begin to use marijuana daily.

Sometimes corpsmembers think they should be allowed to smoke marijuana because there is no documented proof that it is dangerous.

Sometimes a corpsmember will sell marijuana to another corpsmember in order to "cover the cost" of buying it.

Three or four corpsmembers bring a fifth of "hard liquor" (bourbon, gin, vodka, etc.) into the dorm on a saturday afternoon and proceed to drink the entire bottle.

Corpsmembers who are of "legal age" should be allowed to drink off campus.

Some corpsmembers will give marijuana to other corpsmembers.

Once or twice a month a corpsmember might smoke marijuana.

Some corpsmembers smoke marijuana only because their friends do.

Sometimes, three or four corpsmembers will bring a six pack of beer or bottle of wine into the dorm on a Saturday afternoon and drink all of it.

Corpsmembers will often smoke marijuana off campus and only on weekends.

Some corpsmembers will occasionally drink beer or wine off campus (once or twice a month or less).

Table 12

Inventory Items Corresponding to the Category of
Mental Health Problems

Some corpsmembers "see people" when there is no other there.

Some corpsmembers take a nap daily before supper.

Corpsmembers should be taught to expect periods of depression while they are at the center.

If a corpsmember is wrongly accused of something, he or she can feel justified in destroying center property.

Corpsmembers disappointments with center life usually takes care of itself in time.

Sometimes when corpsmembers are "horsing around" they will damage or break center property.

Corpsmembers should be able to recognize when they are depressed.

Corpsmembers need to know why some of their friends "hear voices" or "see things" which are not there.

Frequently a corpsmember feels that other corpsmembers are out-to-get-him or her.

Corpsmembers need information regarding the kinds of stress which they will undergo while at the center.

Corpsmembers should be able to state the things and situations which they find as stressful.

Corpsmembers should be able to demonstrate at least two different ways of dealing with stressful situations.

Corpsmembers should be able to identify how they act when they are under stress.

If a corpsmember "acts crazy" (hears voices, etc.) his/her friends and other corpsmembers from the dorm should be given the opportunity to talk about it.

Often corpsmembers write graffitti on center walls.

A corpsmember will sometimes get depressed and now know why.

When a corpsmember "acts crazy" (hears voices, etc.) it is often upsetting to his friends.

Sometimes a corpsmember will just feel worthless.

Corpsmembers should be able to state at least two different ways of dealing with stressful situations.

Sometimes corpsmembers will purposely destroy center property "for the fun of it."

Corpsmembers should be able to define stress including the physiological and psychological aspects of stress.

Some corpsmembers "hear voices" when no one is talking.

____Positive, this is a problem

____Fairly Certain, this is a problem

____Unsure, but probably a problem

____Unsure, but probably not a problem

____Fairly Certain, this is not a problem

____Positive, this is not a problem

During the course of developmental testing, subjects complained that the response categories were "cumbersome", "artificial", and people "just don't talk like that." With assistance from subjects in developmental testing the following response categories were developed:

____Definitely a Need

____Probably a Need

____Could be a Need

____Possibly Not a Need

____Probably Not a Need

____Definitely Not a Need

and

____Definitely a Problem

____Probably a Problem

____Could be a Problem

____Possibly Not a Problem

____Probably Not a Problem

____Definitely Not a Problem

This second set of response categories was utilized for all subsequent drafts of the inventory. To control for any bias entering into the responses due to position of the response categories (halo

effect, central tendencies effect, etc.) five different sequences of the responses were utilized. Table 13 lists these five different sequences.

Developmental Testing. During August, 1980, developmental testing of the completed inventory was performed on four, white, suburban high school students. The subjects were two male and two female, 16 years-old, high school sophomores. Both of the male students had been scheduled for admission to the Joliet Job Corps Center in Joliet, Illinois, but had decided to return to high school instead. Subjects were given instructions including exactly what the inventory was attempting to perform. They were asked to read each item and make it as if it applied to themselves. They were to circle any words which they did not understand, or any phrases which were unintelligible. After completing the inventory, each item was discussed to see if the four subjects could identify to which general category the individual item belonged. If three of the four students could properly identify the category of needs or problems, the inventory item was considered to be representative of that specific category. The final match of an item with a category is as depicted in Tables 7-12. The major change of the developmental testing was the changes in the response categories as mentioned above.

Determination of Noise- and Signal-Populations. In September, 1980, the Regional Mental Health Consultants to Job Corps were asked to complete the inventory. The Regional Mental Health Consultants determined the Noise and Signal populations through a single-blind technique. Ostensibly, the Regional Mental Health Consultants were

Table 13

Response Categories Used on Inventory

____ Definitely a Need	____ Definitely a Problem
____ Probably a Need	____ Probably a Problem
____ Could be a Need	____ Could be a Problem
____ Possibly not a Need	____ Possibly not a Problem
____ Probably not a Need	____ Probably not a Problem
____ Definitely not a Need	____ Definitely not a Problem
____ Probably a Need	____ Probably a Problem
____ Possibly not a Need	____ Possibly not a Problem
____ Definitely not a Need	____ Definitely not a Problem
____ Definitely a Need	____ Definitely a Problem
____ Probably not a Need	____ Probably not a Problem
____ Could be a Need	____ Could be a Problem
____ Could be a Need	____ Could be a Problem
____ Probably a Need	____ Probably a Problem
____ Definitely not a Need	____ Definitely not a Problem
____ Definitely a Need	____ Definitely a Problem
____ Probably not a Need	____ Probably not a Problem
____ Possibly not a Need	____ Possibly not a Problem
____ Probably not a Need	____ Probably not a Problem
____ Possibly not a Need	____ Possibly not a Problem
____ Definitely a Need	____ Definitely a Problem
____ Could be a Need	____ Could be a Problem
____ Definitely not a Need	____ Definitely not a Problem
____ Probably a Need	____ Probably a Problem
____ Definitely not a Need	____ Definitely not a Problem
____ Probably not a Need	____ Probably not a Problem
____ Possibly not a Need	____ Possibly not a Problem
____ Could be a Need	____ Could be a Problem
____ Probably a Need	____ Probably a Problem
____ Definitely a Need	____ Definitely a Problem

Table 14

Noise- and Signal-Noise Populations for the
Category of Personal Needs

Noise Population Inventory Items

At graduation from Job Corps,
corpsmembers should be single
or never married.

In order to get the most from
their training, corpsmembers
should stay at a center for
at least one year.

Corpsmembers need time to be
alone.

At graduation from Job Corps,
it is important that a corps-
member be required to financially
support himself or herself.

Signal-Noise Population Inventory
Items

Corpsmembers should not have to
worry about the safety of their
personal belongings.

In order to get the most out of
their training, corpsmembers
should stay at the center for
at least six months.

Private areas should be pro-
vided for corpsmembers to talk
with center staff about personal
problems.

Corpsmembers personal belongings
should be kept in a locked
cabinet.

Corpsmembers need a place which
they can consider as their own.

Before they arrive at the
center, corpsmembers should be
told how much they will be
actually paid while they are
at the center.

Table 15

Noise- and Signal-Noise Populations for the
Category of Individual Needs

Noise Population Inventory Items	Signal-Noise Population Inventory Items
Corpsmembers should like their school work.	In order for a corpsmember to get the most out of job corps, it is important that the corpsmember follow all the rules of the center.
If a rule "goes against" a corpsmember's principles, that corpsmember should not be made to follow that rule.	It is important that corpsmembers are able to detect progress in their vocational interests.
Since most rules are "made to be broken" it is not important that corpsmembers follow them.	Corpsmembers must learn which rules of the center can be ignored and which rules must always be followed.
Corpsmembers need assertiveness training.	Corpsmembers should be able to identify a job or skill which they will find as personally satisfying.
It is not necessary for corpsmembers to demonstrate competency in their school work.	Corpsmembers should know at least two different ways of identifying problems.
If a corpsmember is doing well academically and vocationally, it is not important that he or she follow the rules of the center.	It is particularly important that new corpsmembers completely follow all the center rules and regulations.
Corpsmembers should be given the opportunity to lead others during some part of their center life.	Corpsmembers must learn to cooperate with people whose ideas are greatly different from their own.
Corpsmembers should be taught how-to-memorize in order to improve their study habits.	Corpsmembers should be able to outline the basic steps which they use in order to achieve the major goals which they
If a corpsmember is doing well in a class, then he or she should not have to go to that class regularly.	
Corpsmembers' expectations of the center's equipment and facilities should conform with the actual equipment and facilities at the center.	Corpsmembers should be able to state at least two different procedures for identifying problems.

Table 15 (continued)

Noise Population Inventory Items	Signal-Noise Population Inventory Items
Corpsmembers' expectations of center life should conform with the actual conditions of center life.	It is important that corps-members are proud of their scholastic abilities.
Corpsmembers often have difficulty knowing what they should study, for a test.	A corpsmember might think that the only way to get what he wants is by yelling and fighting.
A corpsmember will often not know how to stand-up for himself.	Corpsmembers need to attend all classes.
Corpsmembers should be able to state the difference between being assertive and being aggressive.	It is important that corpsmembers are proud of their work.
During the first month at a center, corpsmembers often question if they have made a correct decision by joining job corps.	Corpsmembers should be able to specify specific goals which they hope to achieve while they are at the job corps center.
	It is particularly important for new corpsmembers to completely follow all the center rules and regulations.

Table 16

Noise- and Signal-Noise Populations for the
Category Support Systems

Noise Population Inventory Items

Even though it is difficult,
corpsmembers must learn how to
"say no" to their friends.

The quality of the center staff
is often not appreciated or
noticed by the corpsmembers.

Once or twice a month a corps-
member might smoke marijuana.

Corpsmembers need to develop a
relationship with an adult
staff member in order to have
a source of adult support
while they are at the center.

Frequently corpsmembers are
afraid to "say no" to a friend
because they do not want to
lose that friendship.

Turnover of center staff helps
corpsmembers to learn to live
in the "real world."

Weekly sessions with members of
the counseling staff are neces-
sary for new corpsmembers
during their first three months
at the center.

Signal-Noise Population
Inventory Items

A corpsmember should know how
to say "no" to a friend with-
out losing that person's
friendship.

Often corpsmembers agree to do
something because all their
friends are doing it.

Corpsmembers should be taught
how to end friendships with
people whom they no longer
want to be friends.

Corpsmembers should be taught
how to make friends.

A corpsmember should be taught
to view other corpsmembers as
a primary source of support
while they are at the center.

Center staff turnover effects
corpsmembers.

Table 17

Noise- and Signal-Noise Populations for the
Category of Sexuality

Noise Population Inventory Items

Some corpsmembers sexual orienta-
tion is homosexuality.

Corpsmembers need explicit
instructions in the biology
of human sexuality.

Corpsmembers need explicit
information and instructions
in the cultural norms of human
sexuality.

If two corpsmembers want, they
should be allowed to engage in
sexual relations.

Signal-Noise Population
Inventory Items

Information regarding how to
obtain abortions should be
provided to any corpsmember.

Information regarding the
means of obtaining at least
two different types of birth
control should routinely be
made available to all corps-
members.

Corpsmembers should be aware
of three different means of
birth control and the relative
effectiveness of each.

Although often sexually active,
many corpsmembers still have
alot to learn about personal
relationships.

Corpsmembers need explicit
information in birth control
procedures.

Table 18

Noise- and Signal-Noise Population for the
Category of Substance Abuse

Noise Population Inventory Items

Signal-Noise Population
Inventory Items

Sometimes corpsmembers think they should be allowed to smoke marijuana because there is no documented proof that it is dangerous.

Sometimes a corpsmember will sell marijuana to another corpsmember in order to "cover the cost" of buying it.

Corpsmembers who can "handle their liquor" (drink without getting drunk) should be allowed to drink off campus.

Frequently a corpsmember will begin to use marijuana daily.

Corpsmembers who are of "legal age" should be allowed to drink off campus.

Some corpsmembers will occasionally drink beer or wine off campus (once or twice a month or less).

Some corpsmembers will give marijuana to other corpsmembers.

Some corpsmembers will bring beer or wine on campus even though they know it is against the rules.

Sometimes, three or four corpsmembers will bring a six pack of beer or bottle of wine into the dorm on a Saturday afternoon and drink all of it.

Some corpsmembers will occasionally drink "hard liquor" (bourbon, gin, vodka, etc.) off campus, once or twice a month or less.

Corpsmembers will often smoke marijuana off campus and only on weekends.

Some corpsmembers will drink hard liquor (bourbon, gin, vodka, etc.) every Friday and Saturday night, off campus.

Once in awhile a corpsmember will sell marijuana to his friends in order to make money.

Three or four corpsmembers bring a fifth or "hard liquor" (bourbon, gin, vodka, etc.) into the dorm on a Saturday afternoon and proceed to drink the entire bottle.

Table 18 (continued)

Noise Population Inventory Items	Signal-Noise Population Inventory Items
Some corpsmembers smoke marijuana only because their friends do.	
Often, corpsmembers will drink beer or wine every Friday and Saturday night, off campus.	

Table 19

Noise- and Signal-Noise Populations for the
Category of Mental Health Problems

Noise Population Inventory Items

Signal-Noise Population
Inventory Items

Some corpsmembers take a nap
daily before supper.

Corpsmembers should be able to
identify how they act when they
are under stress.

Corpsmembers need to know why
some of their friends "hear
voices" or "see things" which
are not there.

When a corpsmember "acts crazy"
(hears voices, etc.) it is
often upsetting to his friends.

Corpsmembers should be able to
define stress including the
physiological and psychological
aspects of stress.

Frequently a corpsmember feels
that other corpsmembers are
out-to-get-him or her.

Often corpsmembers write
graffitti on center walls.

Some corpsmembers "see people"
when there is no one there.

Corpsmembers should be taught
to expect periods of depres-
sion while they are at the
center.

A corpsmember will sometimes
get depressed and not know why.

Corpsmembers should be able
to demonstrate at least two
different ways of dealing with
stressful situations.

If a corpsmember "acts crazy"
(hears voices, etc.) his/her
friends and other corpsmembers
from the dorm should be given
the opportunity to talk about
it.

Sometimes a corpsmember will
just feel worthless.

Corpsmembers should be able to
recognize when they are
depressed.

Sometimes when corpsmembers are
"horsing around" they will
damage or break center property.

Corpsmembers need information
regarding the kinds of stress
which they will undergo while
at the center.

Corpsmembers disappointments
with center life usually takes
care of itself in time.

If a corpsmember is wrongly
accused of something, he or
she can feel justified in
destroying center property.

Corpsmembers should be able to
state at least two different
ways of dealing with stress-
ful situations.

Sometimes corpsmembers will
purposely destory center
property "for the fun of it."

Corpsmembers should be able to
state the things and situations
which they find as stressful.

Some corpsmembers "hear voices"
when no one is talking.

asked to complete the inventory and comment on the suitability of the items. Of 20 Regional Mental Health Consultants, only seven returned completed inventories. All seven inventory had been properly completed and were used to determine the Signal and Noise populations. If 5, 6, or 7 mental health consultants agreed that an inventory item was descriptive of a need or problem, then the item is considered to be a Signal presentation on the inventory. Stated otherwise, if an inventory item achieved an inter-rater reliability score of equal to or greater than .625, the item is considered to be a Signal item. If only 4, 3, 2, 1, or none of the mental health consultants agree that the item was descriptive of a need or a problem, then the item is considered to be a Noise presentation on the inventory. Again, stated differently, if an item achieved an inter-rater reliability score of less than .625, the item was considered to be a Noise item. In this manner, Signal and Noise are defined by the consensus of the opinions of the mental health consultants rather than reflecting the actual state-of-the-world. Tables 14-19 list the Noise and Signal-Noise populations for each category of items based on the consensus of the mental health consultants' opinions. In all, 52 items are considered as Noise presentations and 48 items are considered as Signal presentations. The distribution of Signal and Noise items by category of inventory items can be found in Table 20.

In addition, a second Noise/Signal-Noise distribution of the inventory items was calculated based on the responses of the Job Core Center staff. Again, if an inter-rater reliability score equal to or greater than .625 was achieved, the item was considered to be a Signal presentation. If an inventory item achieved an inter-rater reliability

score less than .625, it was considered to be a Noise presentation.
This second set of distributions were utilized as a comparison to the
first set of distributions. In the second distribution set, a total of
34 items were considered as Signal presentations while 66 items were
considered as Noise presentations.

The Third Subproblem. The third subproblem is to utilize a
Signal Detection model to analyze and interpret the data in order to
determine how consistently the respondent groups have identified

Table 20

Distribution of Signal-Noise and Noise Inventory Items by
Categories of Inventory Items as Determined by the
Regional Mental Health Consultants

| Inventory Category | Number of | | |
	Signal Items	Noise Items	Total Items
1. Personal Needs	4	6	10
2. Mental Health Needs	15	15	30
3. Support Systems	6	6	12
4. Sexuality	4	5	9
5. Substance Abuse	12	5	17
6. Mental Health Problems	11	11	22
TOTAL	48	52	100

specific mental health needs and problems.

The Means of Obtaining the Data

In September, 1980, the completed inventory was administered
to 16 high school students at Clemente High School, Chicago, Illinois.
The students have been identified by the school administration as a
high-risk population and have been placed in a special program at the
high school. Many of the students were familiar with Job Corps having
had brothers or sisters who were in Job Corps or the students them-
selves were considering application to Job Corps. The purpose of
administering the completed inventory to the Clemente High School
students was to again further test the instrument for readability and
to utilize these students as a control group for the corpsmembers who
would be taking the test. The data from the Clemente students are
reported as the control group in the discussion of the results for the
Cincinnati Center.

In October, 1980, the completed inventory was administered to
60 corpsmembers and 33 staff members at the Cincinnati Job Corps
Center.

Screening of the Inventories

Each inventory was screened to ensure that only those inventories
which had been properly completed would be analyzed. Of the 34 staff
members returning the inventory, one (1) was incomplete and not used
in the analysis. Of the 75 corpsmembers who returned inventories,
15 inventories were not used. Thus, 60 corpsmember inventories were
analyzed. Of the control group of 16 Clemente High School students,
all were properly completed and analyzed.

A copy of the final inventory can be found in Appendix .

RESULTS

Assumptions of Signal Detection Model Not Satisfied

In plotting the ROC curves for various respondent groups to different categories of items, it becomes obvious that a major assumption of the Signal Detection model was not met. The slopes of the ROC curves did not equal 1 indicative that the variances of the Signal and Noise distributions were not equal. To compensate this this d_e' was calculated. d_e' is calculated by using the Hit Rates and False Alarm Rates at the point where the ROC curve crosses the minor diagonal on the double probability paper.[1] Even though one of the assumptions of the model was not met, both d' and d_e' will be reported.

Results for Entire Inventory

Initially, the results for each group of respondents were determined for the entire inventory as a whole. Results were calculated for the Mental Health Consultants, Center Staff, Corpsmembers, and Control Group of Clemente High School students.

For the entire inventory, the Mental Health Consultants' responses resulted in a d' of .76 and a d_e' of .88. The Hit Rate (HR) was .89 while the False Alarm Rate (FAR) was .68. Response Bias was .53 indicative of the adoption of a lax criterion or bias toward a "Yes" response (Yes, definitely a Need/Problem). Preference was .79 again indicative of a bias toward a "Yes" response while overall accuracy

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[1]For a more detailed discussion of d_e' and its relationship to d' refer to Swets and Green (1964).

was .61.

Staff members' responses to the entire inventory resulted in a d' of .29 and a d$_e$ of .36. Staff members had a HR of .87 and a FAR of .80. Response bias was .76 indicative of a lax criterion or a criterion favoring a "Yes" response. Preference was .84 indicating a strong bias to "Yes" responses while overall accuracy was .54 or at the chance level.

Corpsmembers' responses to the entire inventory resulted in a d' or .20 and a d$_e$ of .20. The HR was .73 while the FAR was .66. Response bias was .90 indicating a slight bias toward a lax criterion favoring "Yes" responses while Preference was .70 indicative of a bias toward "Yes" responses. Accuracy was near the chance level at .54.

The control groups' responses to the entire inventory resulted in a d' of .10 and a d$_e$ of .08. The HR was .76 while the FAR was .73. Response bias was .94 indicating a slight bias toward "Yes" responses. Preference was .75 indicative of a strong bias toward "Yes" responses while accuracy was near the chance level at .52.

Table 21 summarizes the results of the different groups to the entire inventory. ROC curves for this data can be found in Figures 1-4.

Category 1, Personal Needs. Inventory items belonging to Category 1 consisted of those personal needs such as privacy, length of stay in Job Corps, etc. (Refer to Table 14 for a list of Category 1 needs.)

Mental Health Consultants' responses to category 1 items resulted in a d' of .92 and a d$_e$ of 1.10. The HR was .90 and the FAR was .64.

Table 21

Analysis of Entire Inventory As-a-Whole

RESPONDENT GROUP	ENTIRE INVENTORY						
	d'	d'_e	HR	FAR	β	Pref	Acc
Mental Health Consultants	.76	.88	.89	.68	.53	.79	.61
Staff Members	.29	.36	.87	.80	.76	.84	.54
Corpsmembers	.20	.20	.73	.66	.90	.70	.54
Control Group	.10	.08	.76	.73	.94	.75	.52
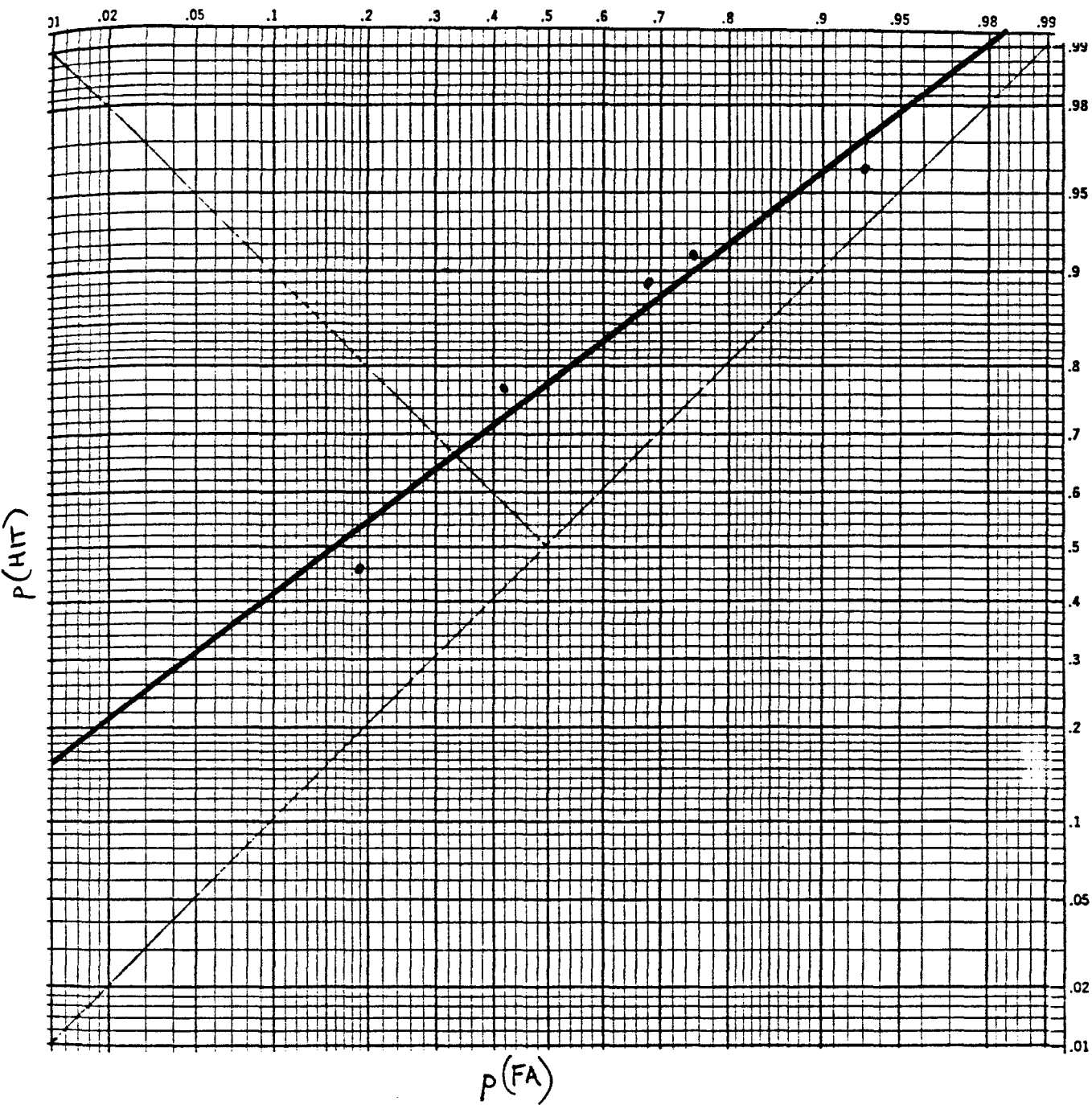
Figure 1. ROC Curves for the Mental Health Consultants for the
Entire Inventory.
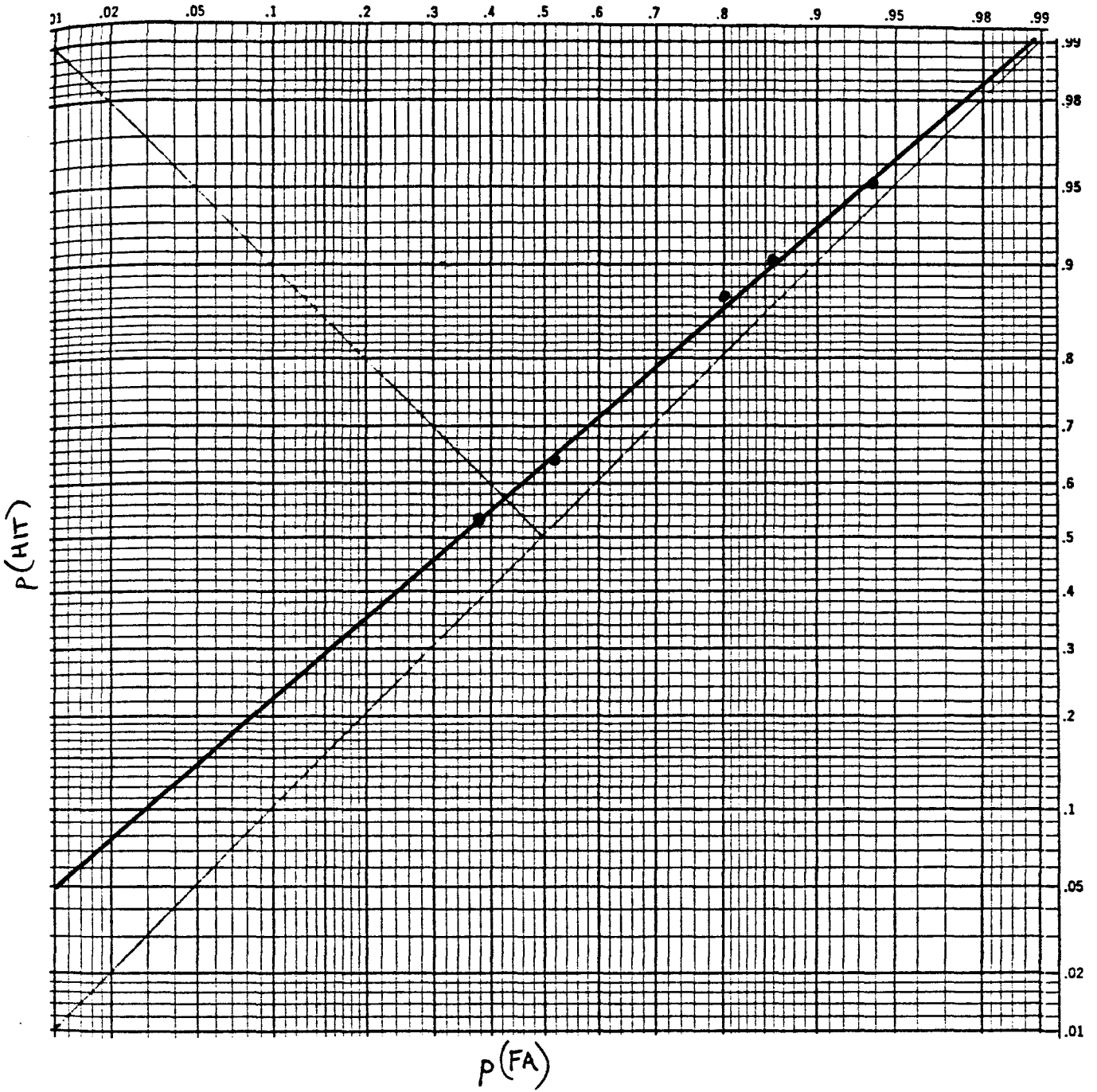
Figure 2. ROC Curves for Center Staff for the Entire Inventory.
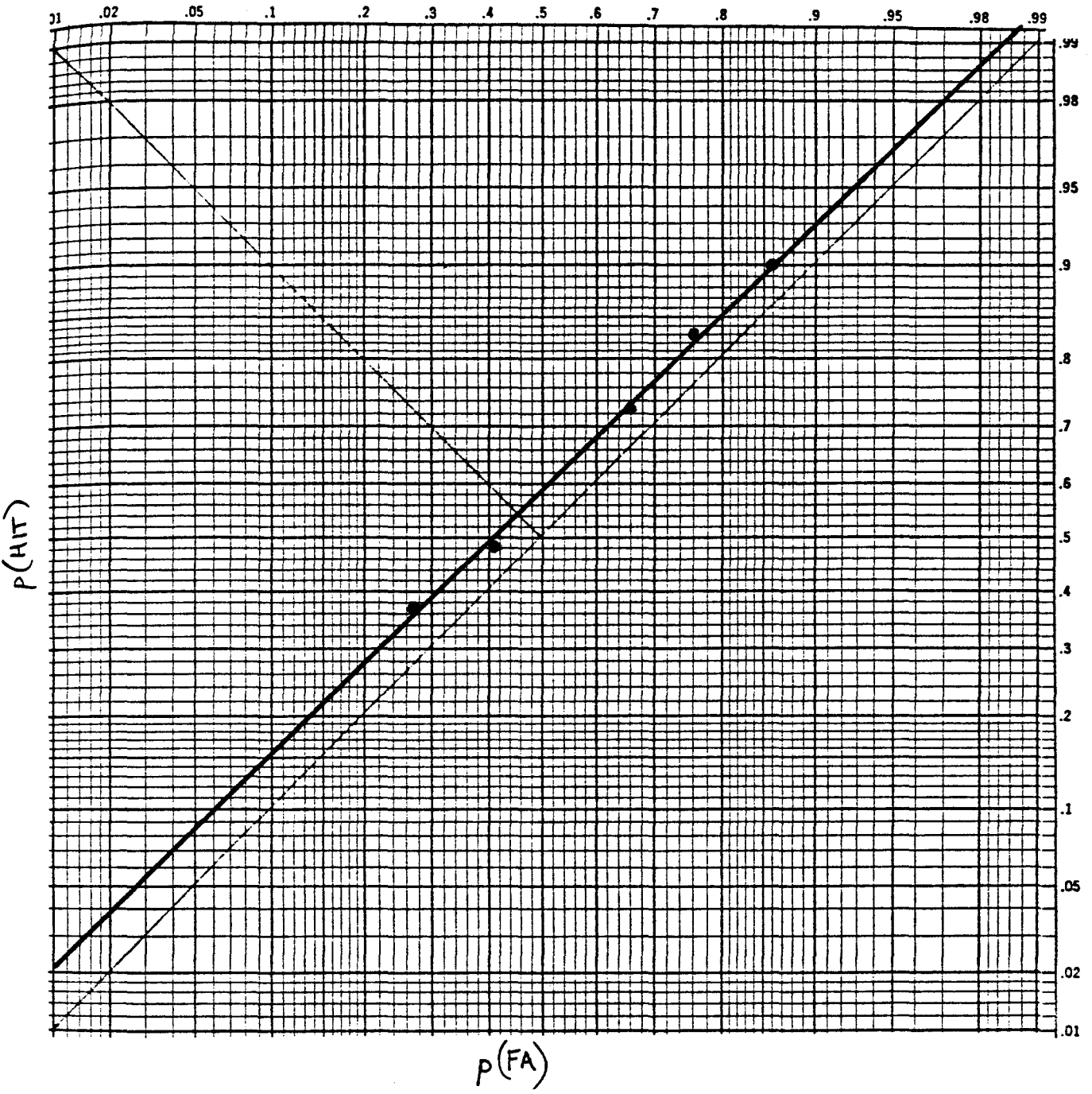
Figure 3.   ROC Curves for Corpsmembers for the Entire Inventory.
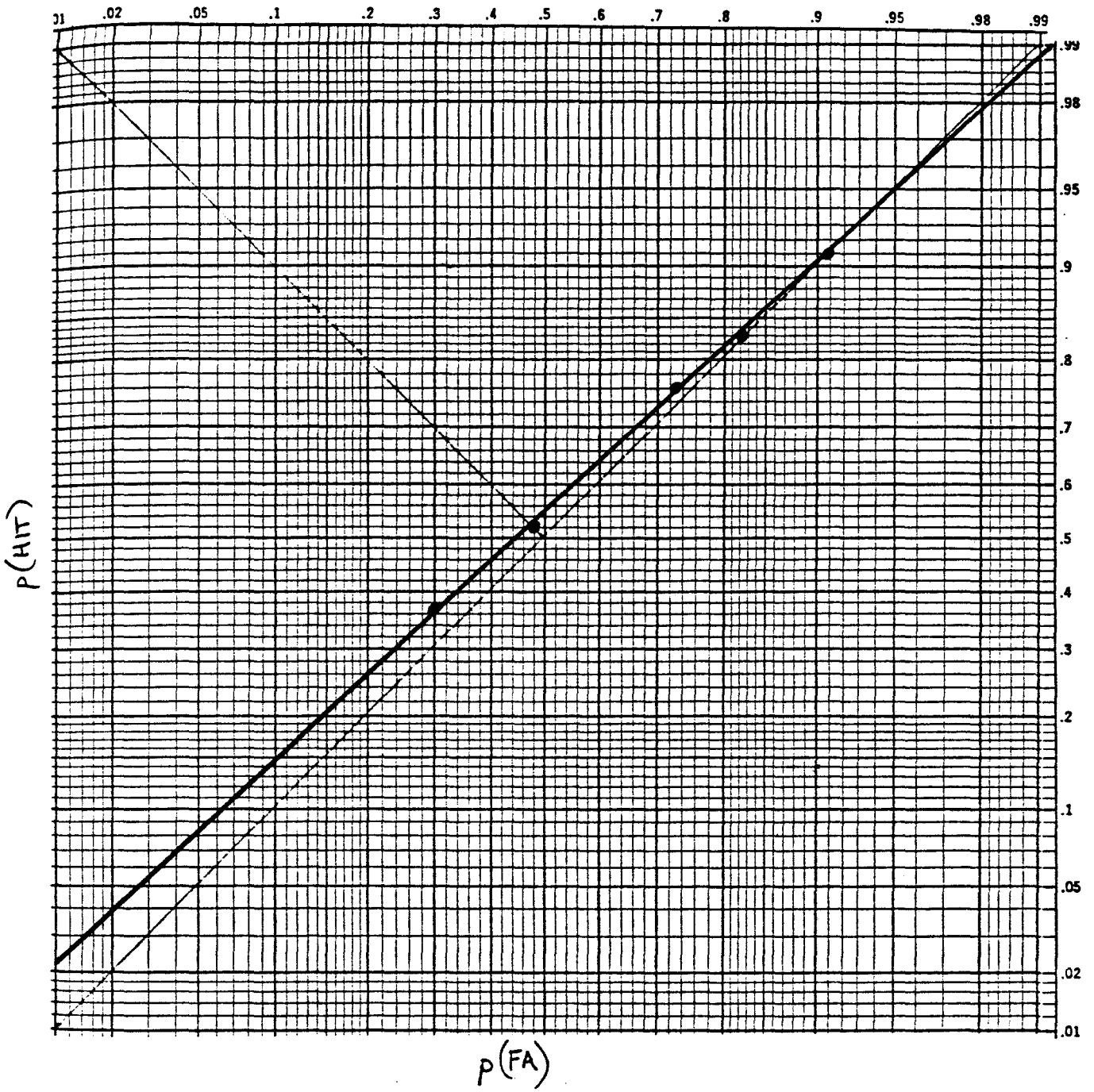
Figure 4. ROC Curves for the Control Group for the Entire
Inventory.

Response bias was .47 indicative of a lax criterion favoring "Yes" responses while Preference was .77 indicating a strong bias toward "Yes" responses. Accuracy was .63.

Staff members' responses to category 1 items resulted in a d' of 1.06 and a d_e' of 1.01. The HR was .91 and the FAR was .61. Response bias was .42 again indicating the adoption of a lax criterion favoring a "Yes" response. Preference, at .76, also showed a strong bias for a "Yes" response. Accuracy was .65.

Corpsmembers' responses to category 1 items resulted in a d' of .58 and a d_e' of .61. The HR was .81 while the FAR was .62. Response bias, at .71, and Preference, at .72, both indicated a bias toward "Yes" responses. Accuracy was .60.

The control groups' responses to category 1 items resulted in a d' of .40 and a d_e' of .20. The HR was .86 while the FAR was .75. Response bias was .70 indicating a lax criterion and a bias toward "Yes" responses while Preference was .81 indicating a strong bias toward "Yes" responses. Accuracy was .56.

Table 22 summarizes the data for category 1 items. ROC curves may be found in Figures 5-8.

Category 2, Mental Health Needs. Category 2 items refer to mental health needs such as problem solving, goal-achievement, etc. (Refer to Table 15 for a list of Category 2 items.)

The Mental Health Consultants' responses to category 2 items resulted in a d' or .79 and a d_e' of 1.01. The HR was .89 while the FAR was .67. Response bias, at .52, and Preference, at .78, both indicated a strong bias toward "Yes" responses. Accuracy was .61.

Table 22

Analysis of Category 1 Items, Personal Needs

RESPONDENT GROUP	CATEGORY 1, PERSONAL NEEDS						
	d'	d'_e	HR	FAR	β	Pref	Acc
Mental Health Consultants	.92	1.10	.90	.64	.47	.77	.63
Staff Members	1.06	1.01	.91	.61	.42	.76	.65
Corpsmembers	.58	.61	.81	.62	.71	.72	.60
Control Group	.40	.20	.86	.75	.70	.81	.56
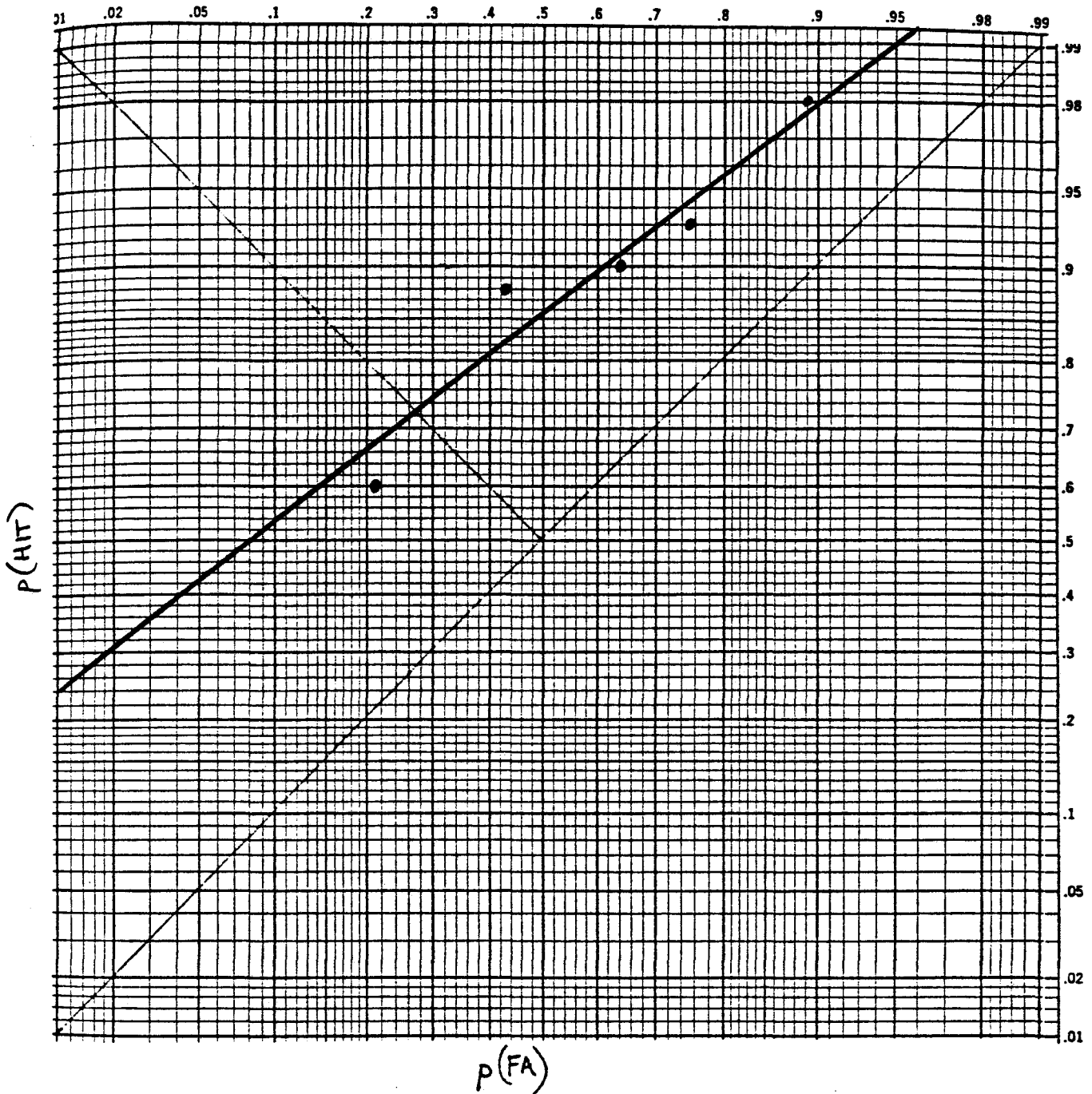
Figure 5. ROC Curves for the Mental Health Consultants for

Category 1, Personal Needs.
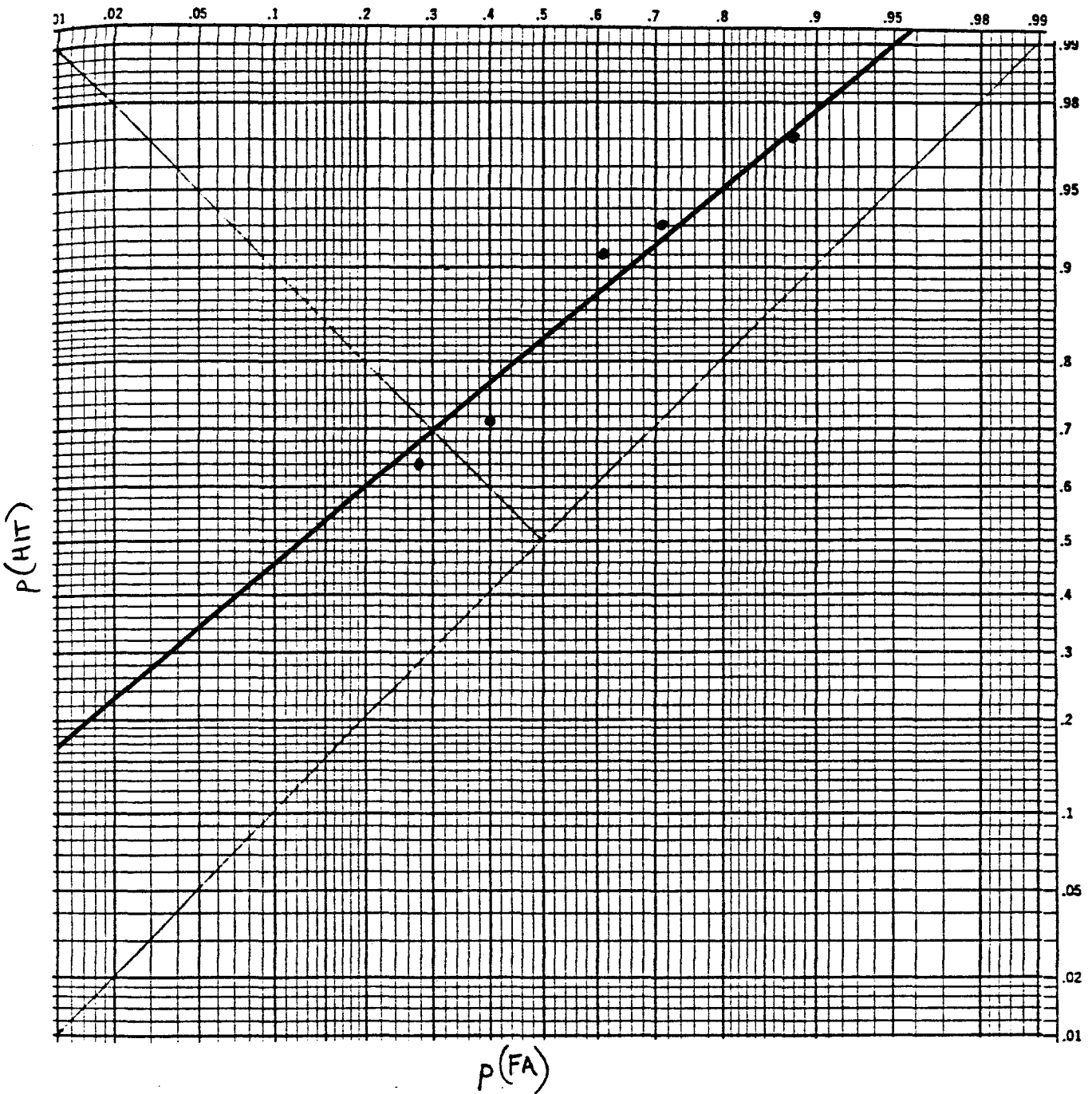
Figure 6. ROC Curves for Center Staff for Category 1,

Personal Needs.
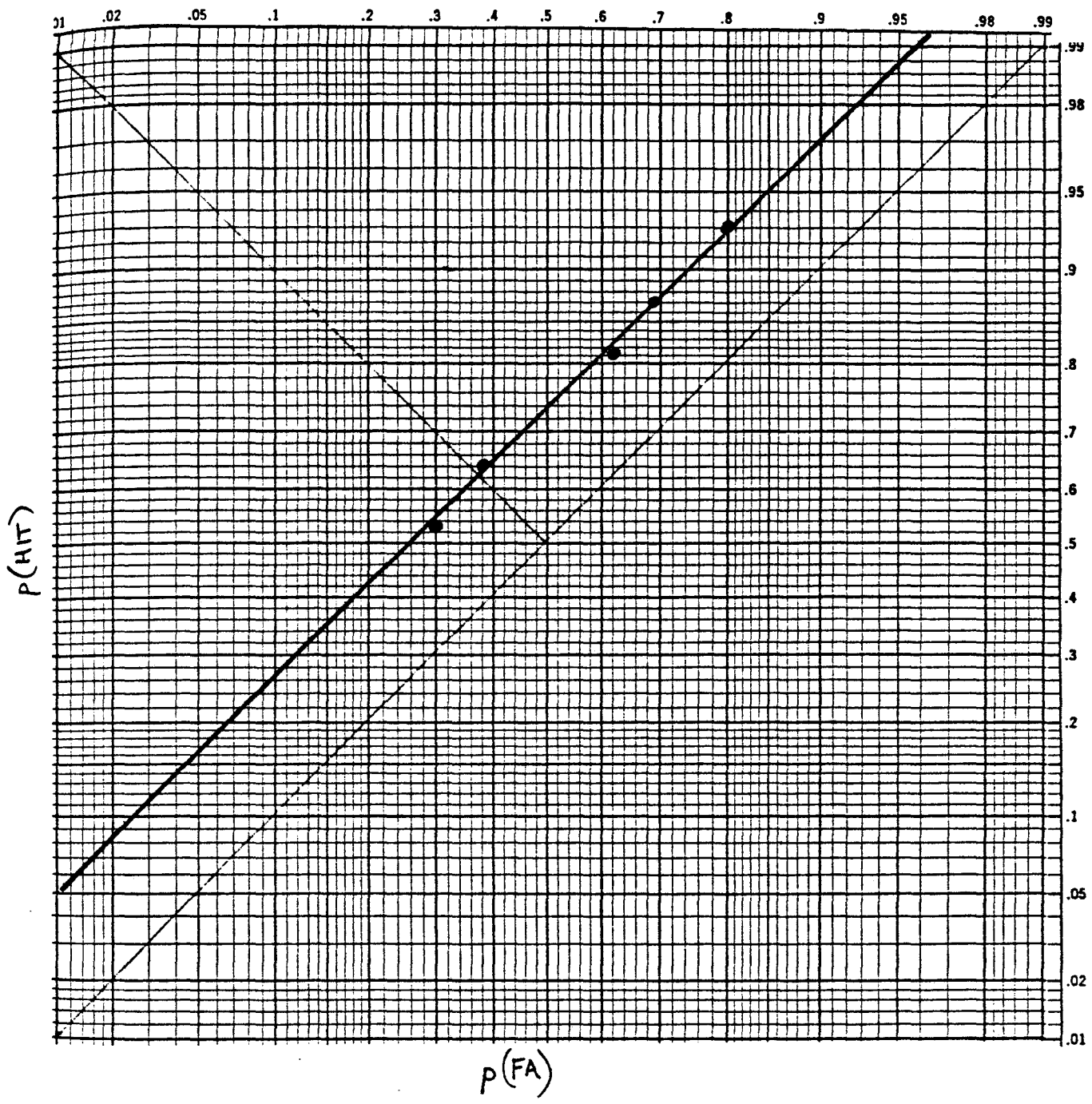
Figure 7. ROC Curves for Corpsmembers for Category 1,
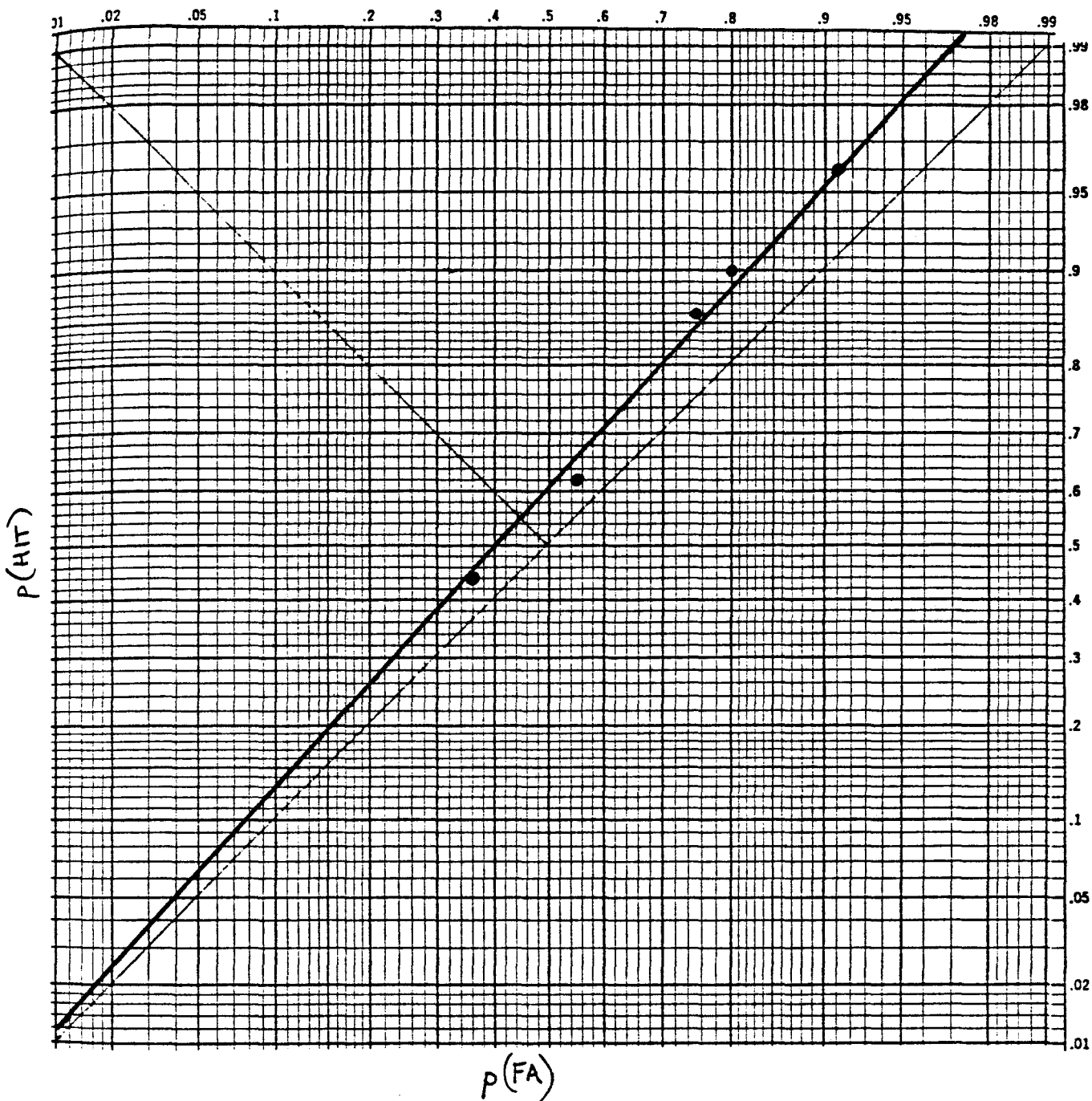
Personal Needs.

Figure 8. ROC Curves for the Control Group for Category 1,
Personal Needs.

Staff members' responses to category 2 items resulted in a d' or .39 and a d_e' of .48. The HR was .89 and the FAR was .80. Response bias was .67 indicative of the adoption of a lax criterion favoring "Yes" responses while Preference, at .85, showed a strong bias to "Yes" responses. Accuracy fell to near the chance level at .55.

Corpsmembers' responses to category 2 items resulted in a d' of .25 and a d_e' of .30. The HR was .79 while the FAR was .71. Response bias, at .86, showed the adoption of a lax criterion while Preference was .75 indicating a strong bias toward "Yes" answers. Accuracy, at .54, was near the chance level.

The control groups' responses to category 2 items resulted in a d' of .02 and a d_e' of .20. The HR was .80 while the FAR was .78. Response bias was .95 indicating only a slight bias toward "Yes" responses while Preference was .79 indicating a much stronger bias toward "Yes" answers. Accuracy was virtually chance at .51.

Table 23 summarizes the data for category 2 items. ROC curves may be found in Figures 9-12.

Category 3, Support Systems. Category 3 inventory items involved support systems for the corpsmember including peers and adult support. (Refer to Table 16 for a list of items in category 3).

The Mental Health Consultants' responses to category 3 items resulted in a d' of 1.48 and a d_e' of .66. The HR was .99 while the FAR was .80. Response bias, at .09, indicated an overwhelmingly strong bias toward "Yes" responses while Preference at .89 also indicated this same bias. Accuracy was .60. Staff members' responses to category 3 items resulted in a d' of -.11 and a d_e' of -.05. The

Table 23

Analysis of Category 2 Items, Mental Health Needs

RESPONDENT GROUP	CATEGORY 2, MENTAL HEALTH NEEDS						
	d'	d$_e$	HR	FAR	β	Pref	Acc
Mental Health Consultants	.79	1.01	.89	.67	.52	.78	.61
Staff Members	.39	.48	.89	.80	.67	.85	.55
Corpsmembers	.25	.30	.79	.71	.86	.75	.54
Control Group	.02	.20	.80	.78	.95	.79	.51
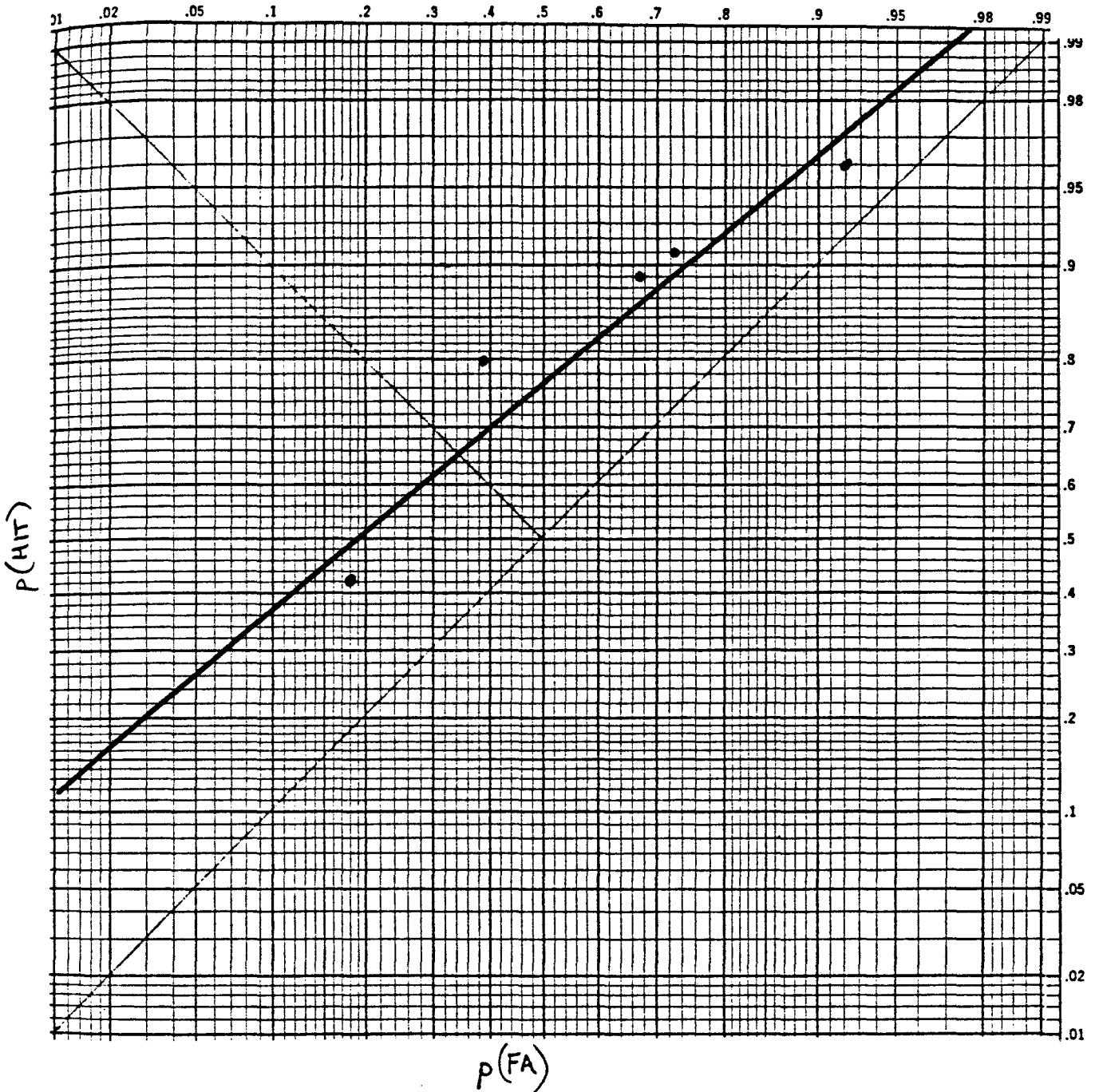
Figure 9.   ROC Curves for the Mental Health Consultants for

Category 2, Mental Health Needs.
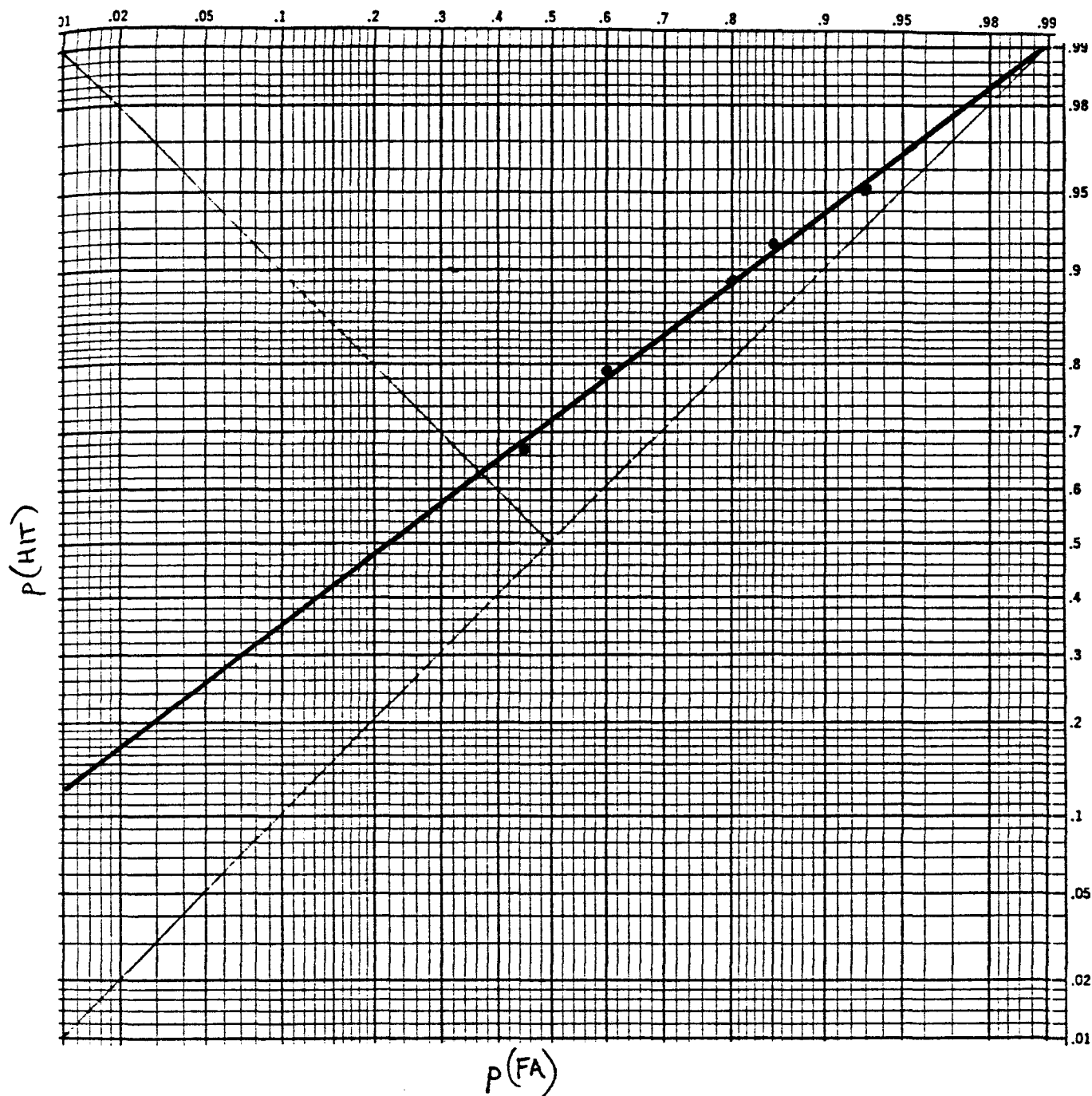
Figure 10. ROC Curves for Center Staff for Category 2, Mental
Health Needs.
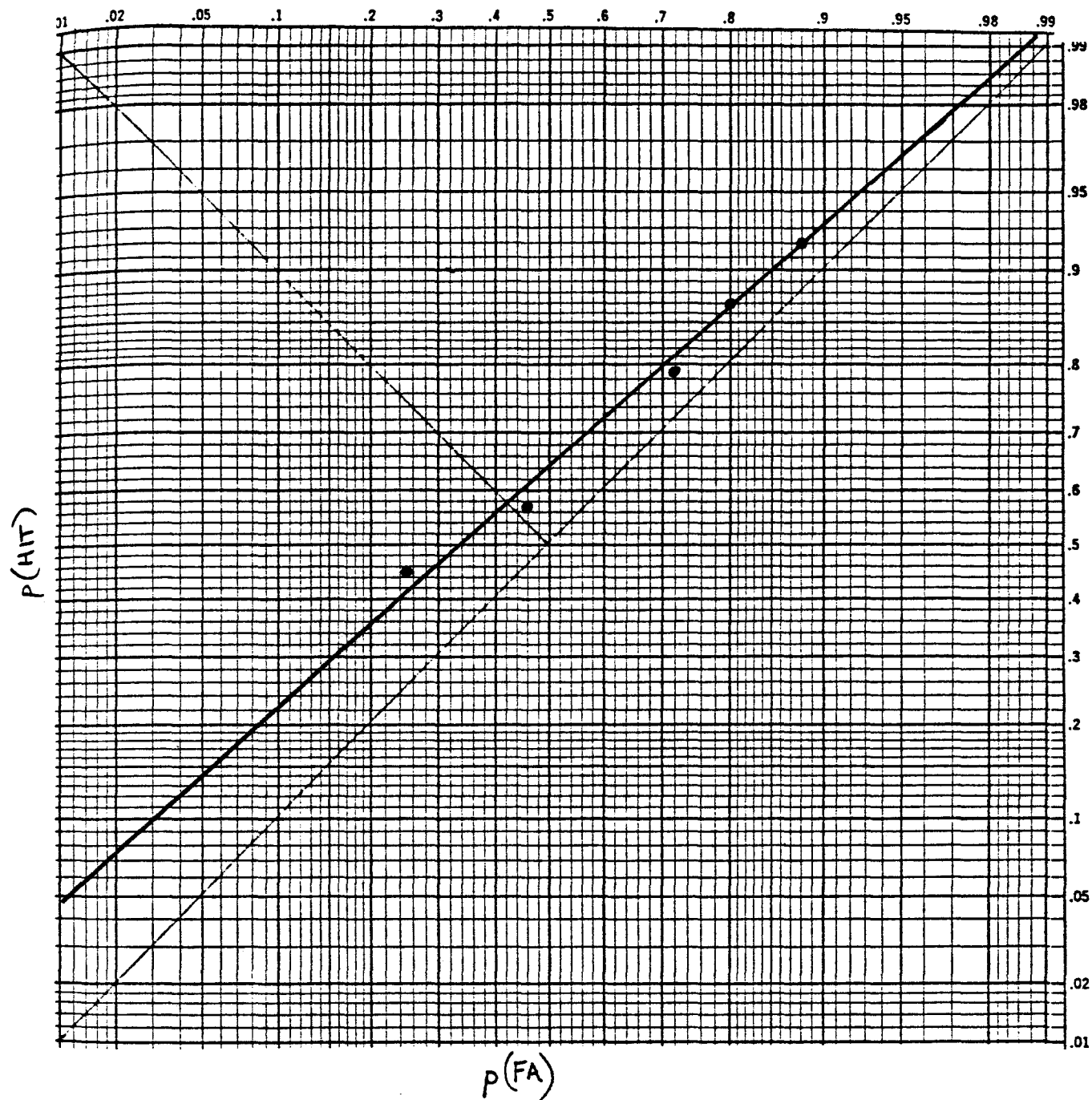
Figure 11.   ROC Curves for the Corpsmembers for Category 2,

Mental Health Needs.
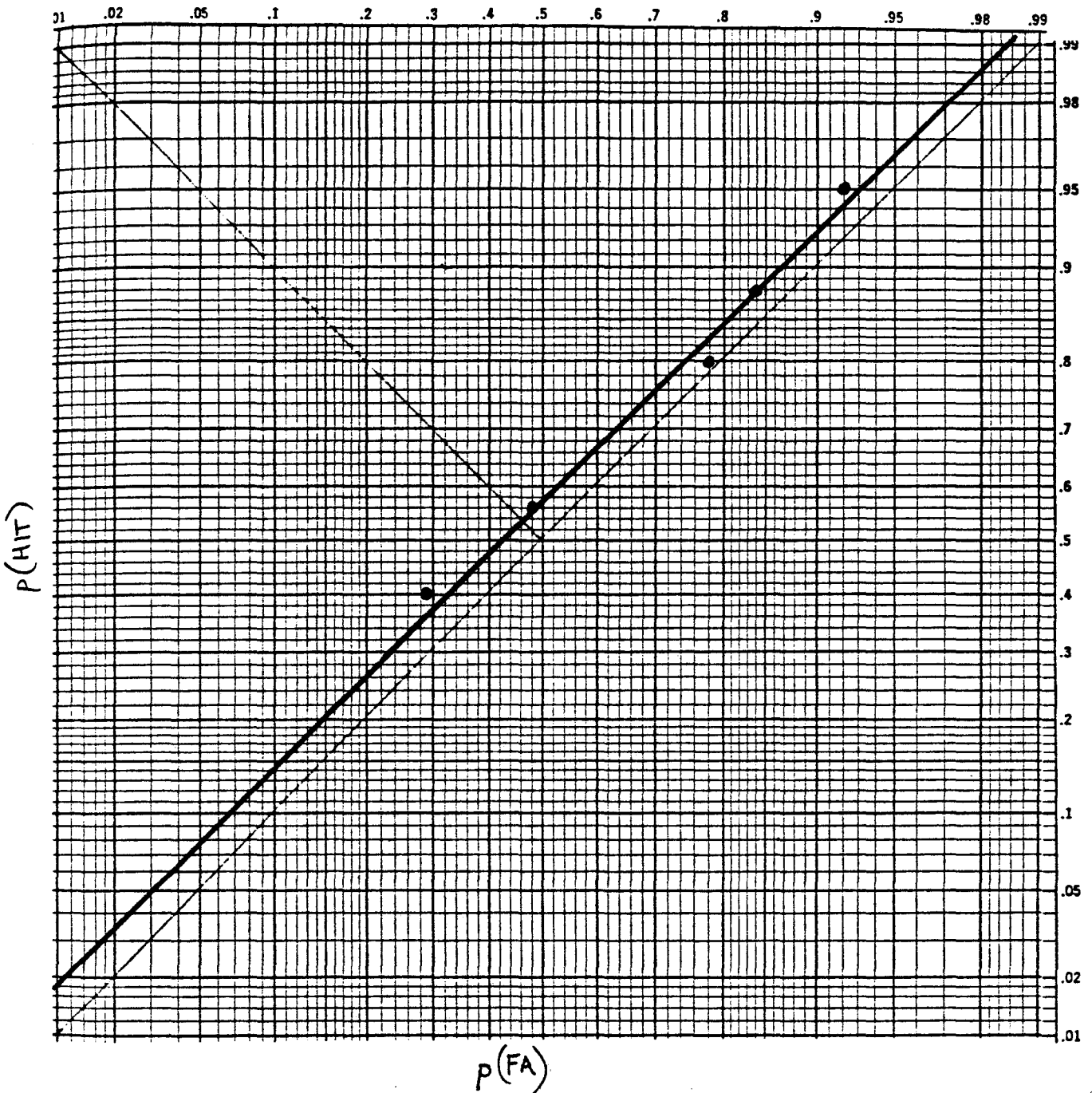
Figure 12. ROC Curves for the Control Group for Category 2,
Mental Health Needs.

HR was .81 while the FAR was .84. Response bias was 1.12 indicating the adoption of a strict criterion, or a criterion biased toward a "No" response (No, definitely not a need/problem). This represents a criterion shift for the staff from their criterion in the first two categories of inventory items. Preference, with a score of .83, still indicated a strong bias toward "Yes" answers. Accuracy dropped below the chance level to .49.

The corpsmembers' responses to category 3 items resulted in a d' of .22 and a d'_e of .10. The HR was .72 while the FAR was .64. Response bias, at .90, indicated the adoption of a lax criterion which only slightly favored a "Yes" response. Preference was .68 and indicative of a bias toward "Yes" answers. Accuracy was near chance, at .54.

The control groups' responses to category 3 items resulted in a d' of -.20 and a d'_e of -.05. The HR was .69 and the FAR was .76. Response bias was 1.13 indicative of a strict criterion favoring "No" responses and was a criterion shift from previous responses. Preference, however, was .73 indicating a strong bias to "Yes" responses. Accuracy fell below the chance level to .47.

Table 24 summarizes the data for category 3 items. ROC curves can be found in Figures 13-16.

Category 4, Sexuality. Category 4 inventory items involved sexual concerns such as birth control, personal relations, etc. (Refer to Table 17 for the list of items in category 4).

The Mental Health Consultants' responses to category 4 items resulted in a d' of 1.41 and a d'_e of 1.11. The HR was .97 while the

Table 24

Analysis of Category 3 Items, Support Systems

| RESPONDENT GROUP	CATEGORY 3, SUPPORT SYSTEMS						
	d'	d_e	HR	FAR	β	Pref	Acc
Mental Health Consultants	1.48	.66	.99	.80	.09	.89	.60
Staff Members	-.11	-.05	.81	.84	1.12	.93	.49
Corpsmembers	.22	.10	.72	.64	.90	.68	.54
Control Group	-.20	-.05	.69	.76	1.13	.73	.47
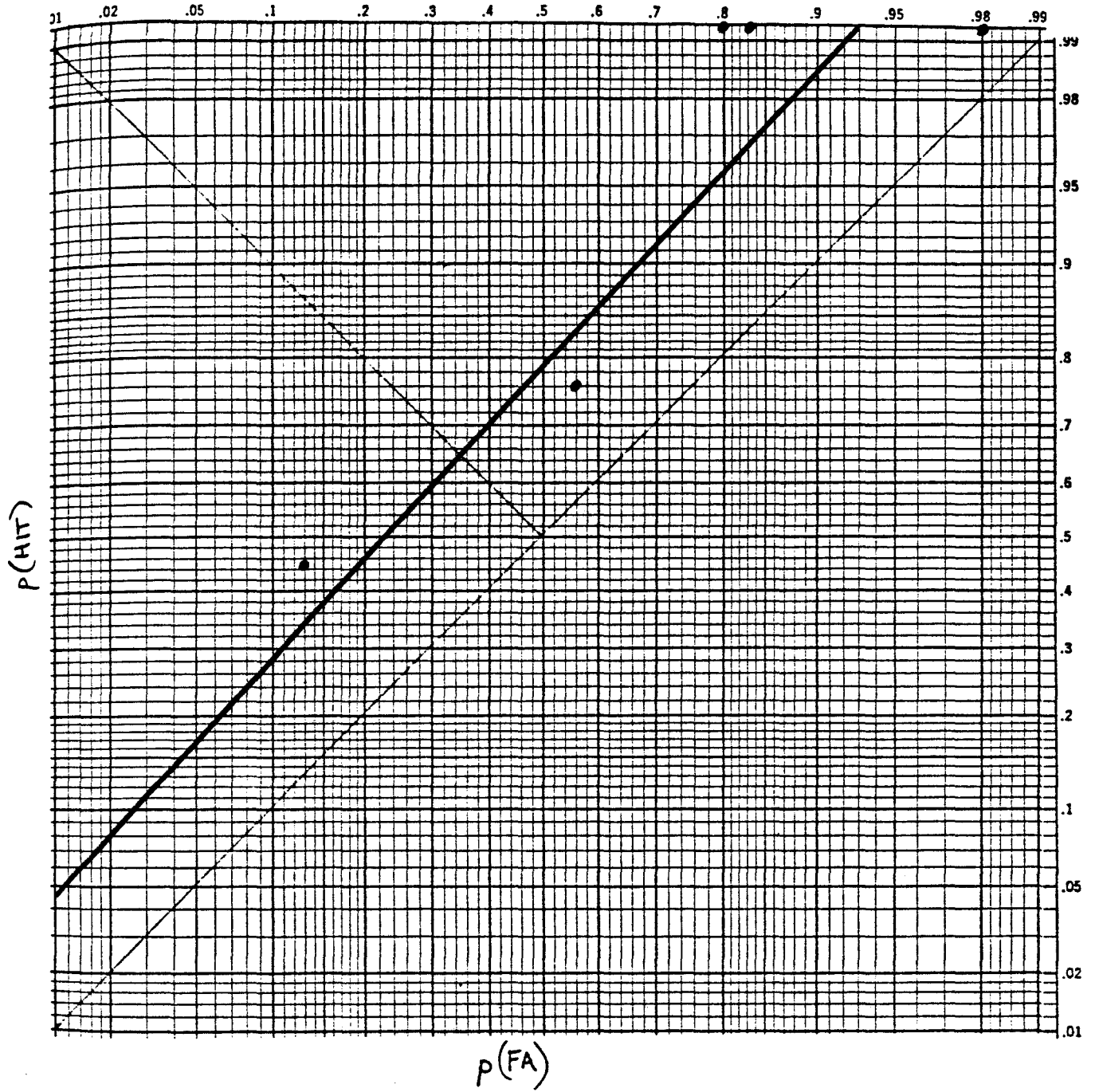
Figure 13.   ROC Curves for the Mental Health Consultants for

Category 3, Support Systems.
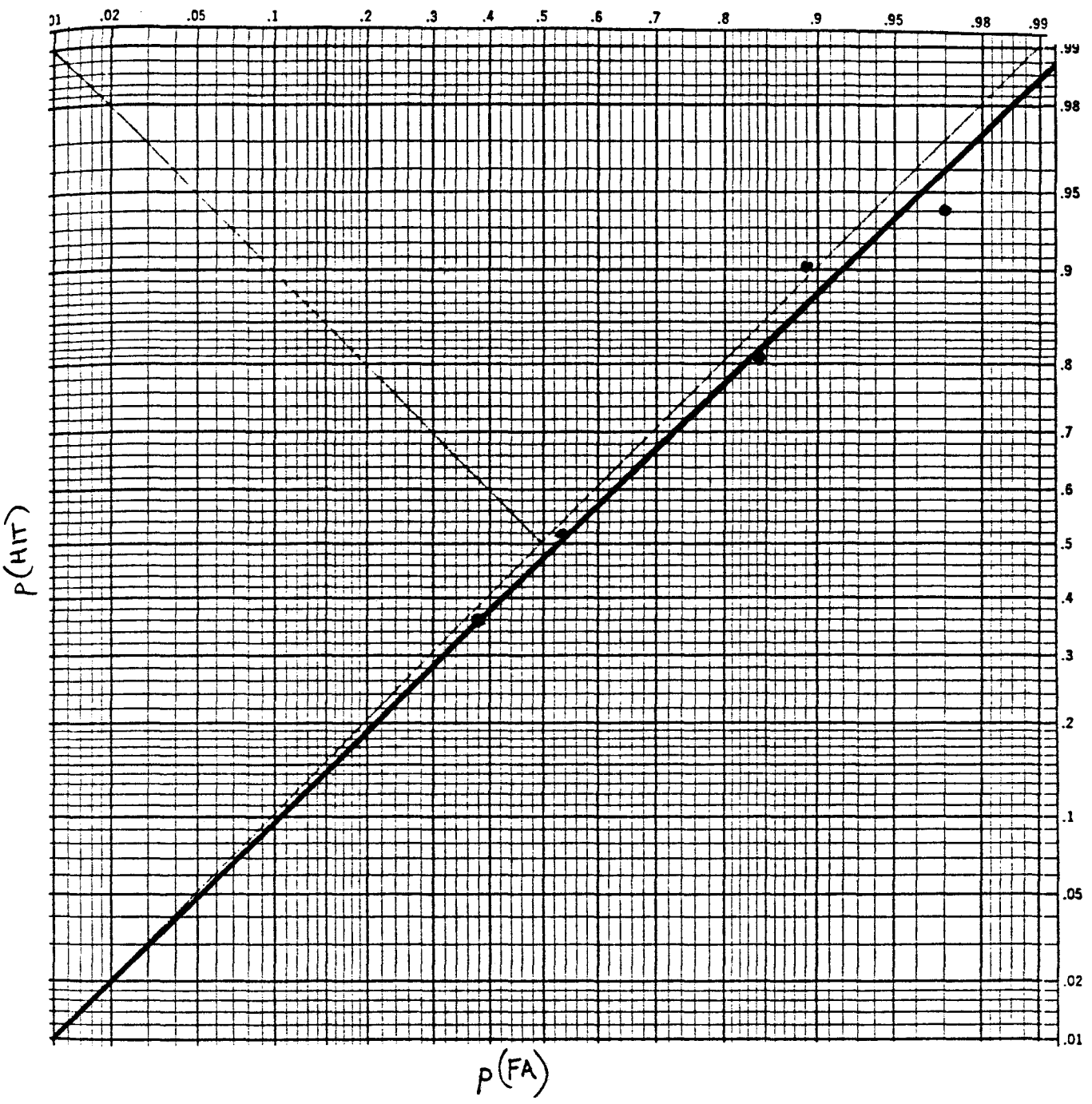
Figure 14. ROC Curves for the Center Staff for Category 3,
Support Systems.

Figure 15. ROC Curves for the Corpsmembers for Category 3,
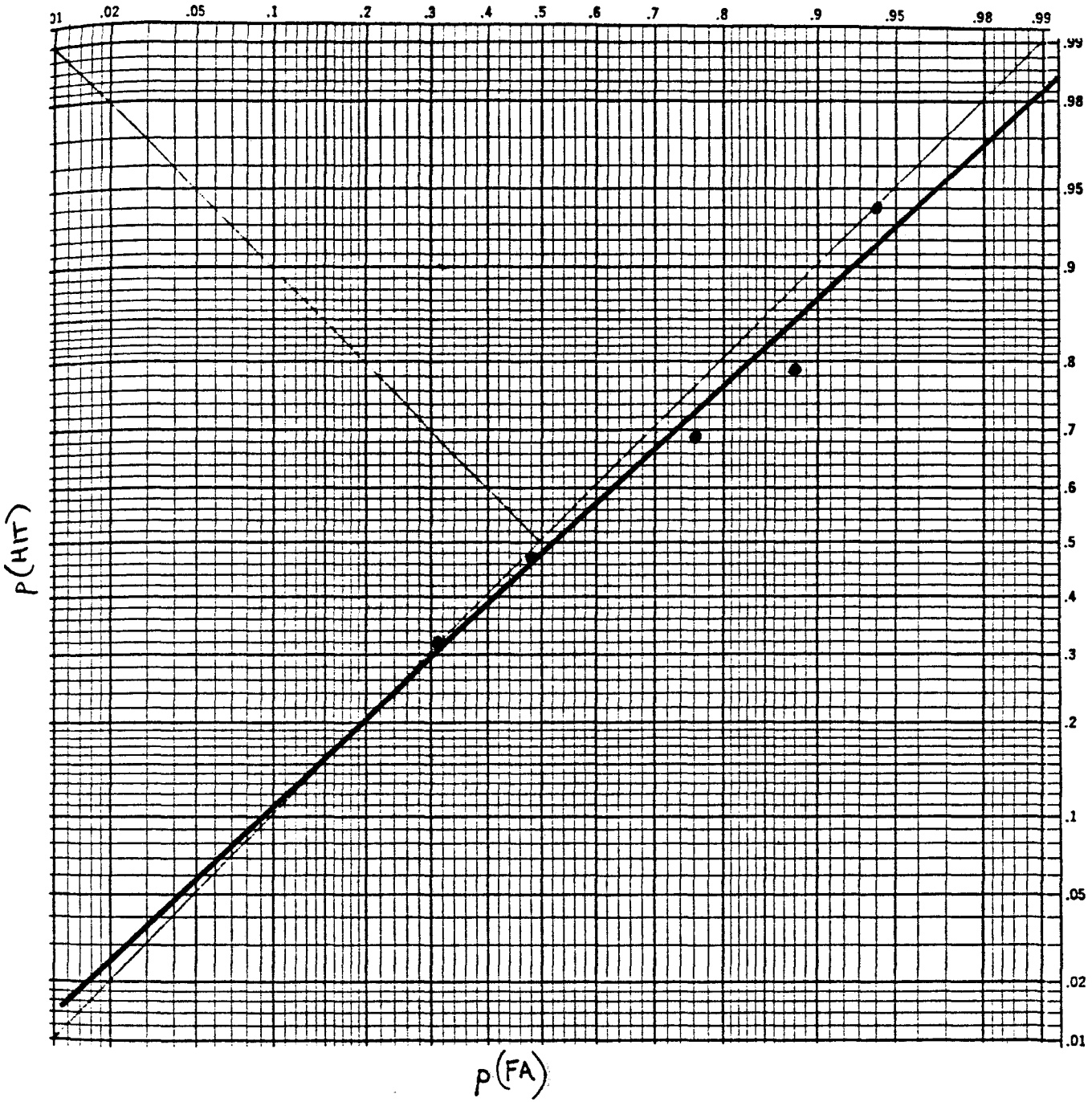
Support Systems.

Figure 16. ROC Curves for the Control Group for Category 3,

Support Systems.

FAR was .68. Response bias was .19 again indicative of a lax criterion strongly biased to a "Yes" response. Preference, at .83, also showed a strong bias to a "Yes" response. Accuracy was .65.

The staffs' responses to category 4 items resulted in a d' of .59 and a d_e' of .61. The HR was .89 and the FAR was .74. Response bias at .58, is indicative of the adoption of a lax criterion favoring a "Yes" response. Again, this represents a criterion shift from the one adopted for the previous category of items (support systems) back to the original criterion for categories one and two. Preference, at .82 indicates a strong bias for a "Yes" response while accuracy was .57.

The corpsmembers' responses to category 4 items resulted in a d' or -.06 and a d_e' of 0.00. The HR was .71 while the FAR was .73. Response bias, at 1.02, is indicative of the adoption of a strict criterion, or a criterion favoring a "No" response (No, this is not a need/problem). This also represents a criterion shift for the corpsmembers from a lax to a strict criterion or a criterion favoring a "No" response. Preference, at .72, still indicated a bias toward "Yes" answers while accuracy dropped below change to .49.

The responses of the control group resulted in a d' of -.38 and a d_e' of -.10. The HR was .65 while the FAR was .78. Response bias was 1.25 indicating that the control group maintained a strict criterion, biased toward "No" responses. Preference at .44 also indicated a slight bias toward "No" answers. Accuracy was .45, or less than chance.

Table 25 summarizes the data for category 4 items. ROC curves

Table 25

Analysis of Category 4 Items, Sexuality

| RESPONDENT GROUP	CATEGORY 4, SEXUALITY						
	d'	d_e'	HR	FAR	β	Pref	Acc
Mental Health Consultants	1.41	1.11	.97	.68	.19	.83	.65
Staff Members	.59	.61	.89	.74	.58	.82	.57
Corpsmembers	-.06	.00	.71	.73	1.02	.72	.49
Control Group	-.38	-.10	.65	.78	1.25	.44	.45
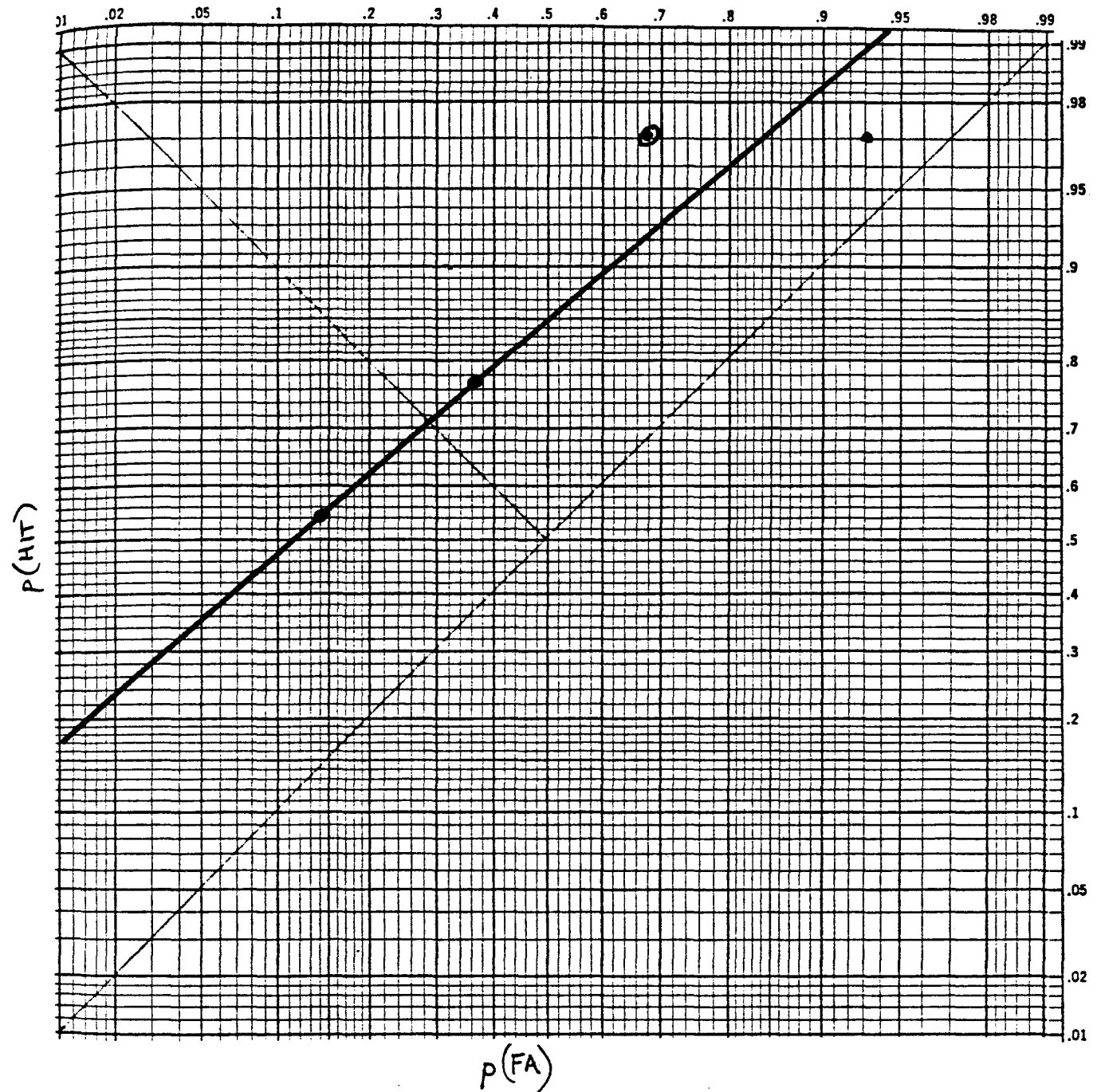
Figure 17. ROC Curves for the Mental Health Consultants for
Category 4, Sexuality.
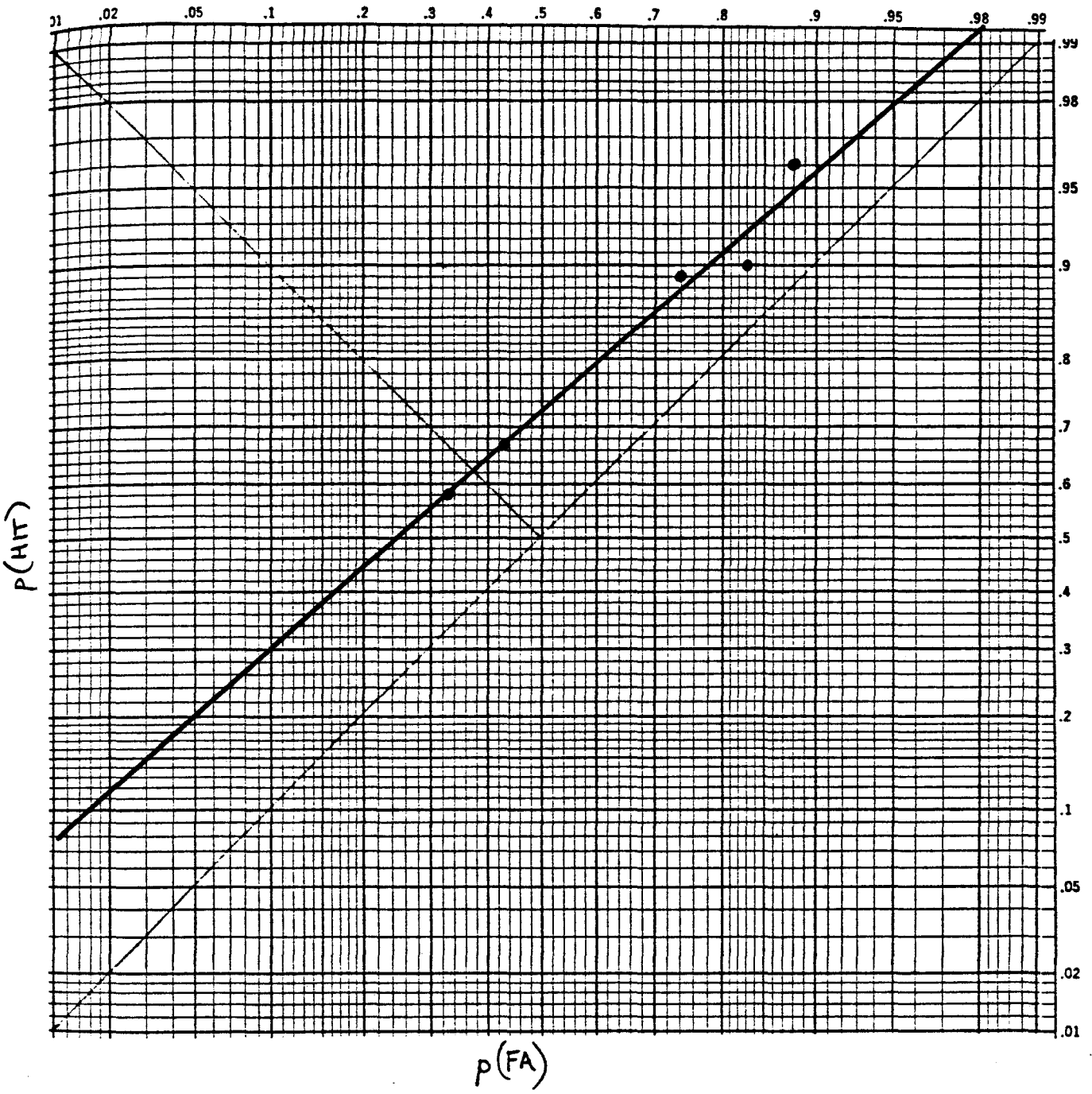
Figure 18. ROC Curves for the Center Staff for Category 4,

Sexuality.
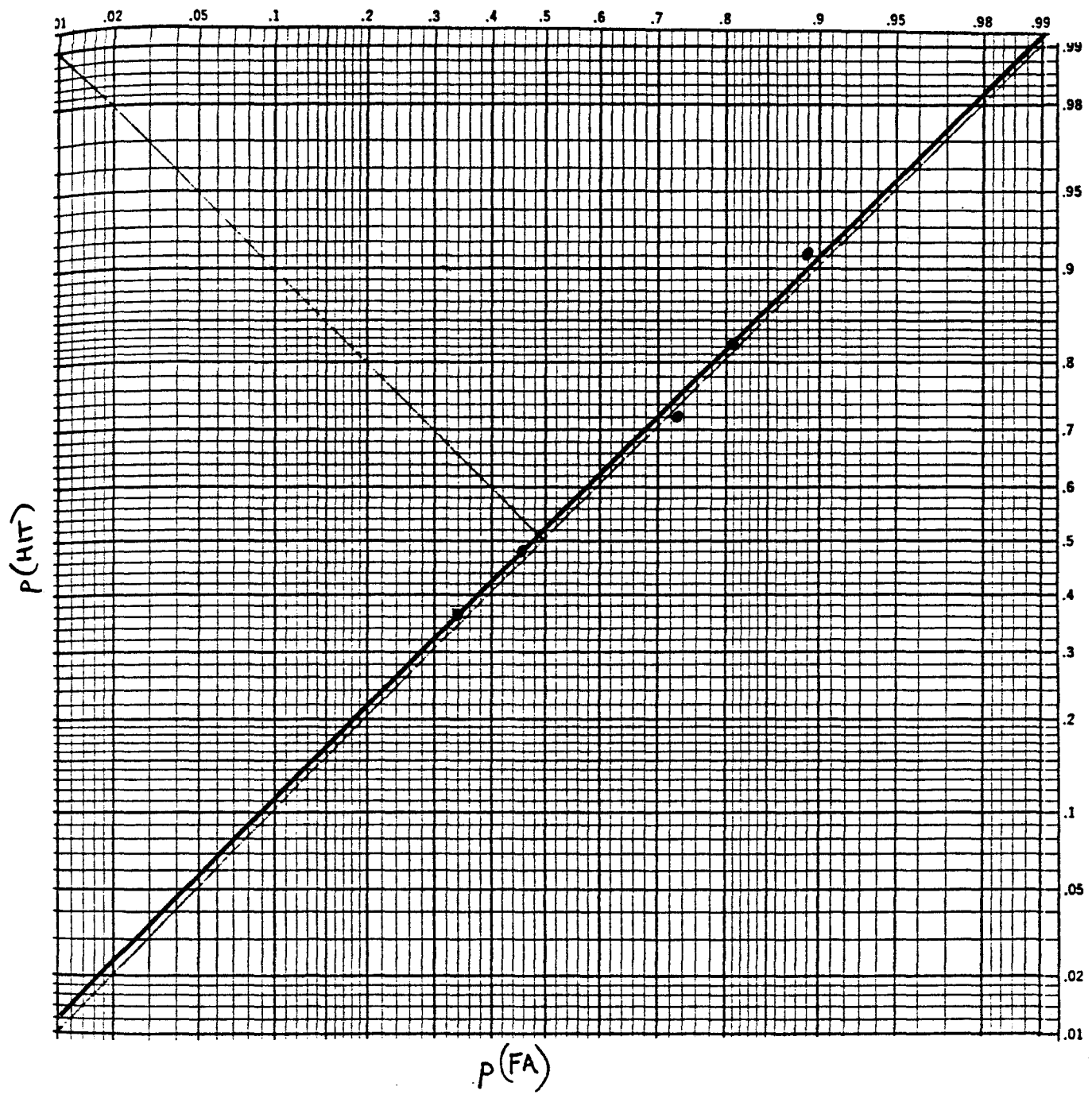
Figure 19.   ROC Curves for the Corpsmembers for Category 4,
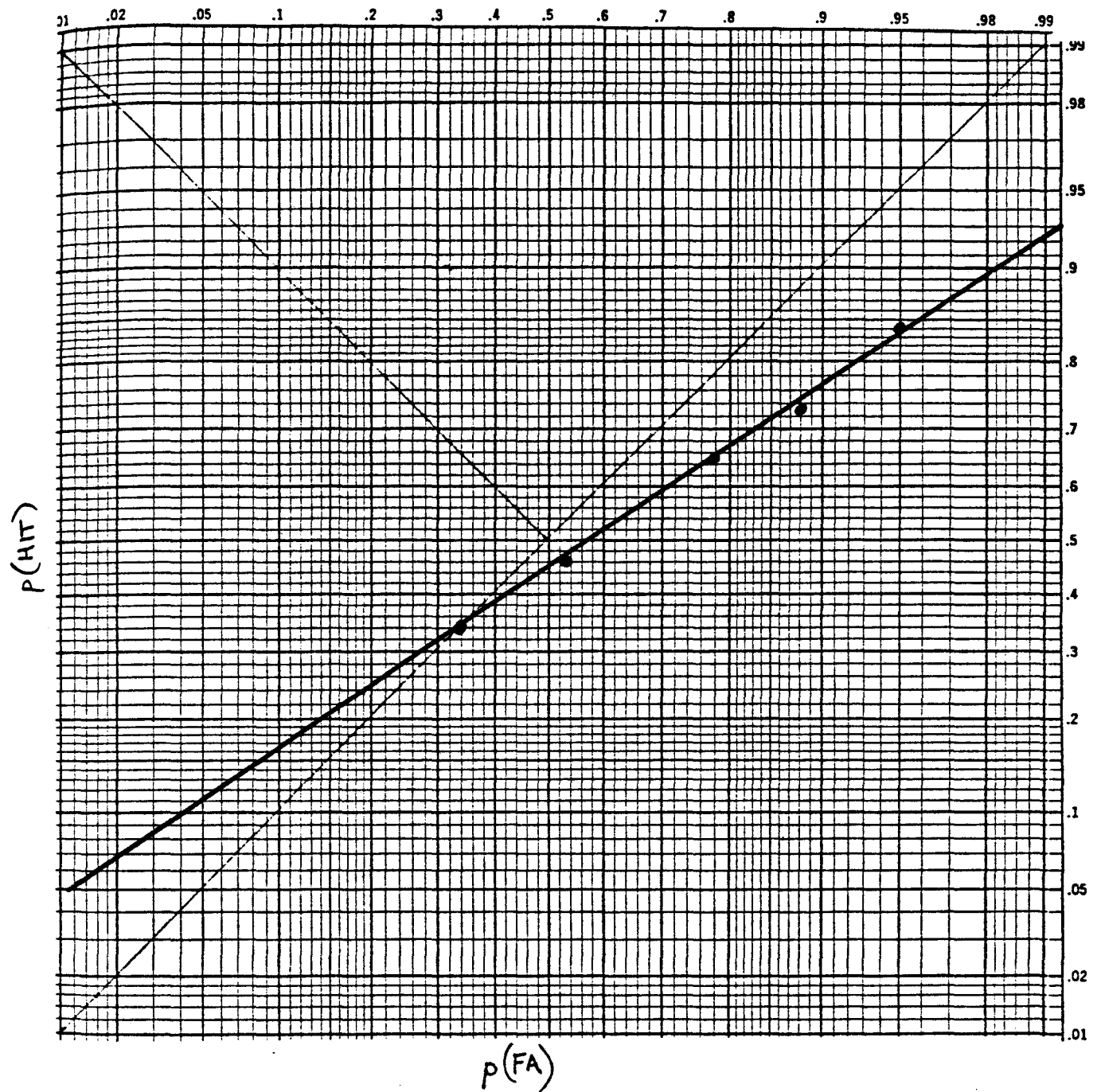
Sexuality.

Figure 20. ROC Curves for the Control Group for Category 4, Sexuality.

can be found in Figures 17-20.

Category 5, Substance Abuse. Category 5 inventory items involved substance abuse by corpsmembers especially the use of alcohol and marijuana (Refer to Table 18 for a list of items in category 5).

The Mental Health Consultants' response to category 5 items resulted in a d' of .02 and a d_e' of .30. The HR was .60 and the FAR was .59. Response bias, at .99, was close to the point of equalling a criterion which equalled no bias. Preference was .60 indicative of a slight bias toward "Yes" responses. Accuracy was .51 or typical of the chance level.

Staff members' responses to category 5 items resulted in a d' of .08 and a d_e' of .05. The HR was .84 and the FAR was .82. Response bias at .93 indicated the adoption of a criterion which slightly favored "Yes" responses. However, preference indicated a strong bias to "Yes" responses with preference equal to .83. Accuracy was near chance at .51.

Corpsmembers' responses to category 5 items resulted in a d' of .02 and a d_e' of .10. The HR was .61 and the FAR was .60. Response bias was close to the point of equalling no bias in criterion level with response bias equal to .99. Accuracy was near chance at .52.

The control groups' responses resulted in a d' of -.08 and a d_e' of -.05. The HR was .64 while the FAR was .67. The control group maintained a strict criterion favoring "No" responses with response bias equalling 1.03. Preference, at .66, indicated a bias toward "Yes" responses while accuracy fell below the chance level to .49.

Table 26 summarizes the data for category 5 items. ROC curves

Table 26

Analysis of Category 5 Items, Substance Abuse

| RESPONDENT GROUP	CATEGORY 5, SUBSTANCE ABUSE						
	d'	d_e'	HR	FAR	β	Pref	Acc
Mental Health Consultants	.02	.30	.60	.59	.99	.60	.51
Staff Members	.08	.05	.84	.82	.93	.83	.51
Corpsmembers	.02	.10	.61	.60	.99	.61	.52
Control Group	-.08	-.05	.64	.67	1.03	.66	.49
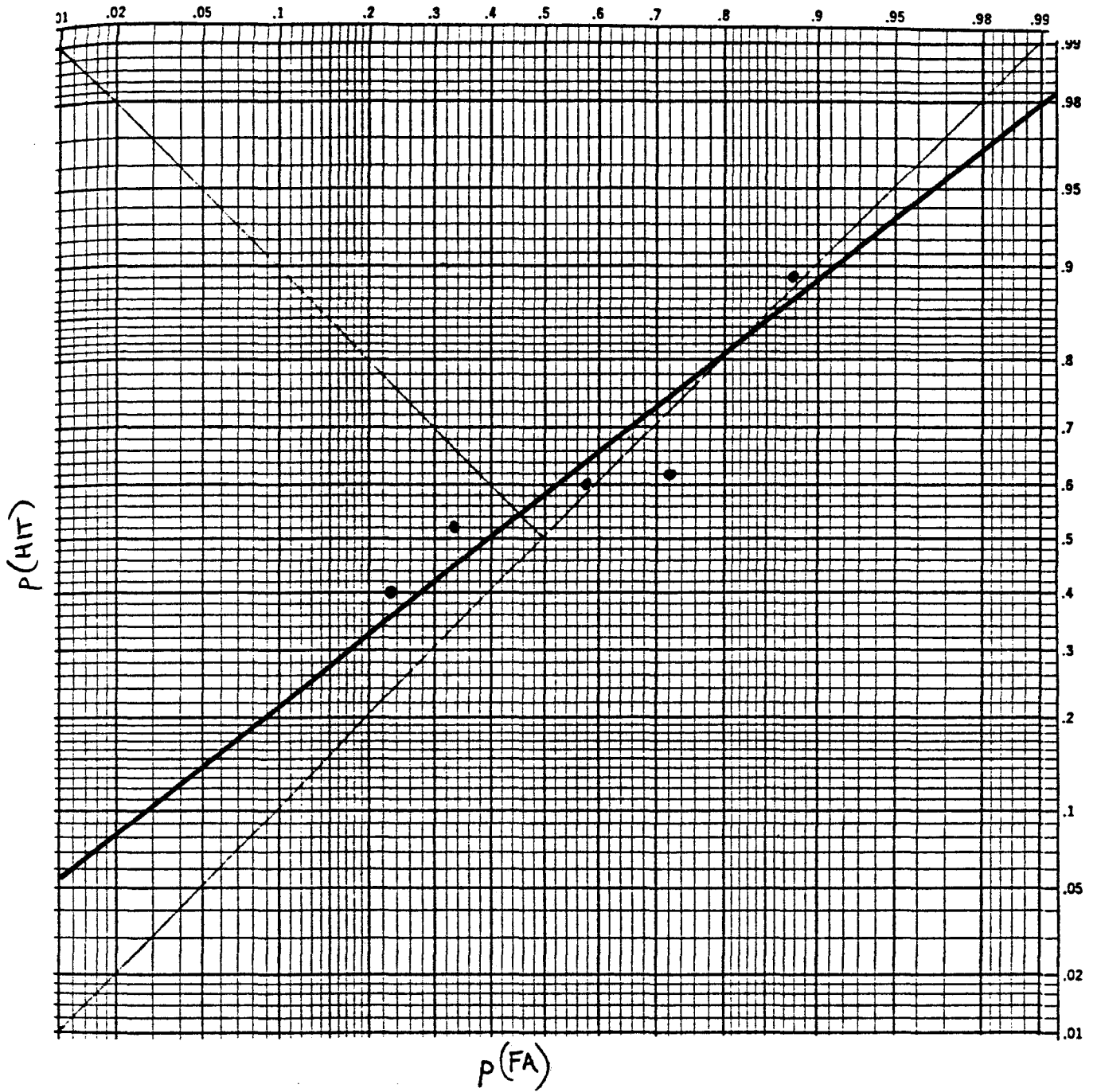
Figure 21. ROC Curves for the Mental Health Consultants for
Category 5, Substance Abuse.
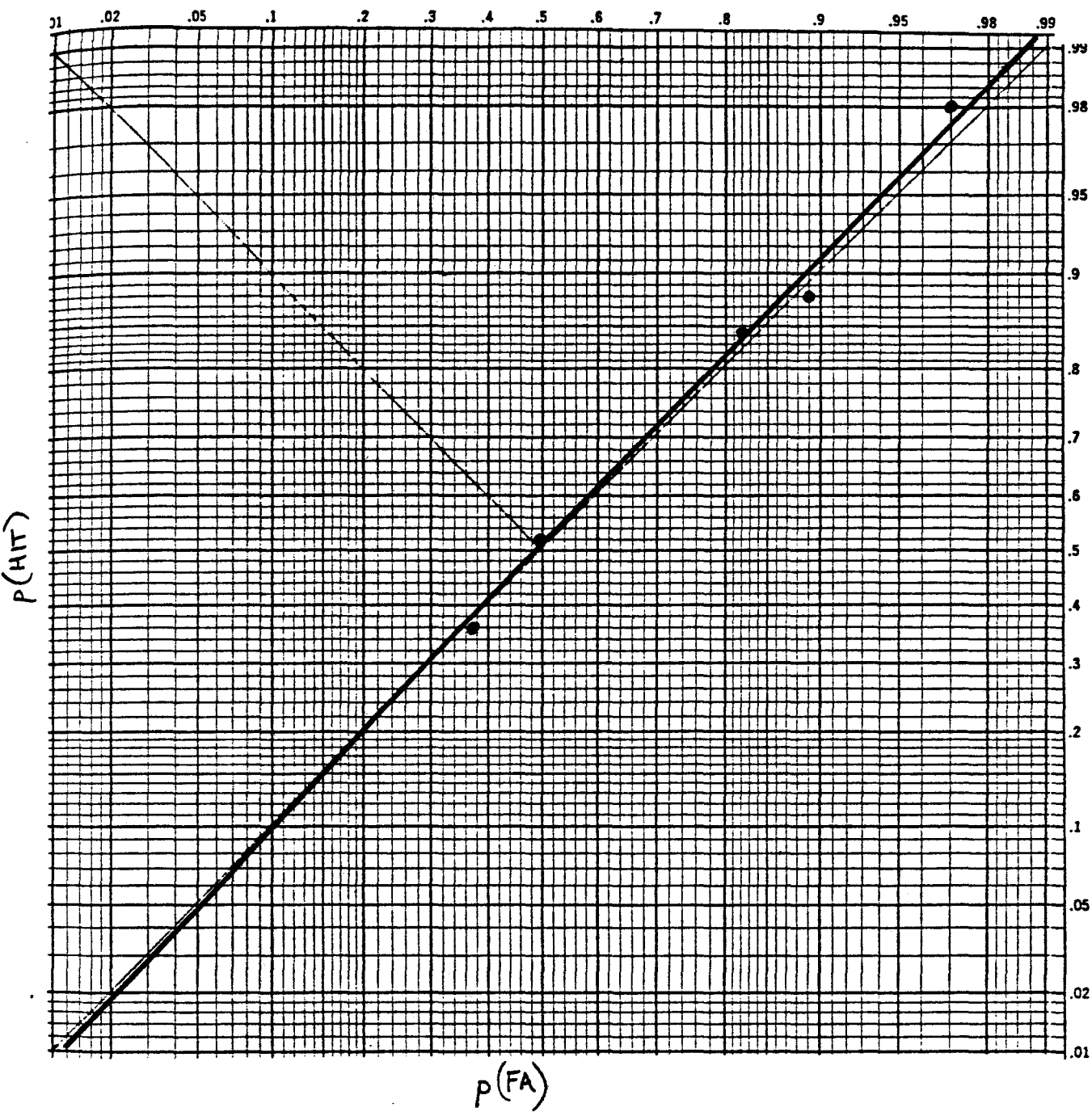
Figure 22. ROC Curves for the Center Staff for Category 5,

Substance Abuse.
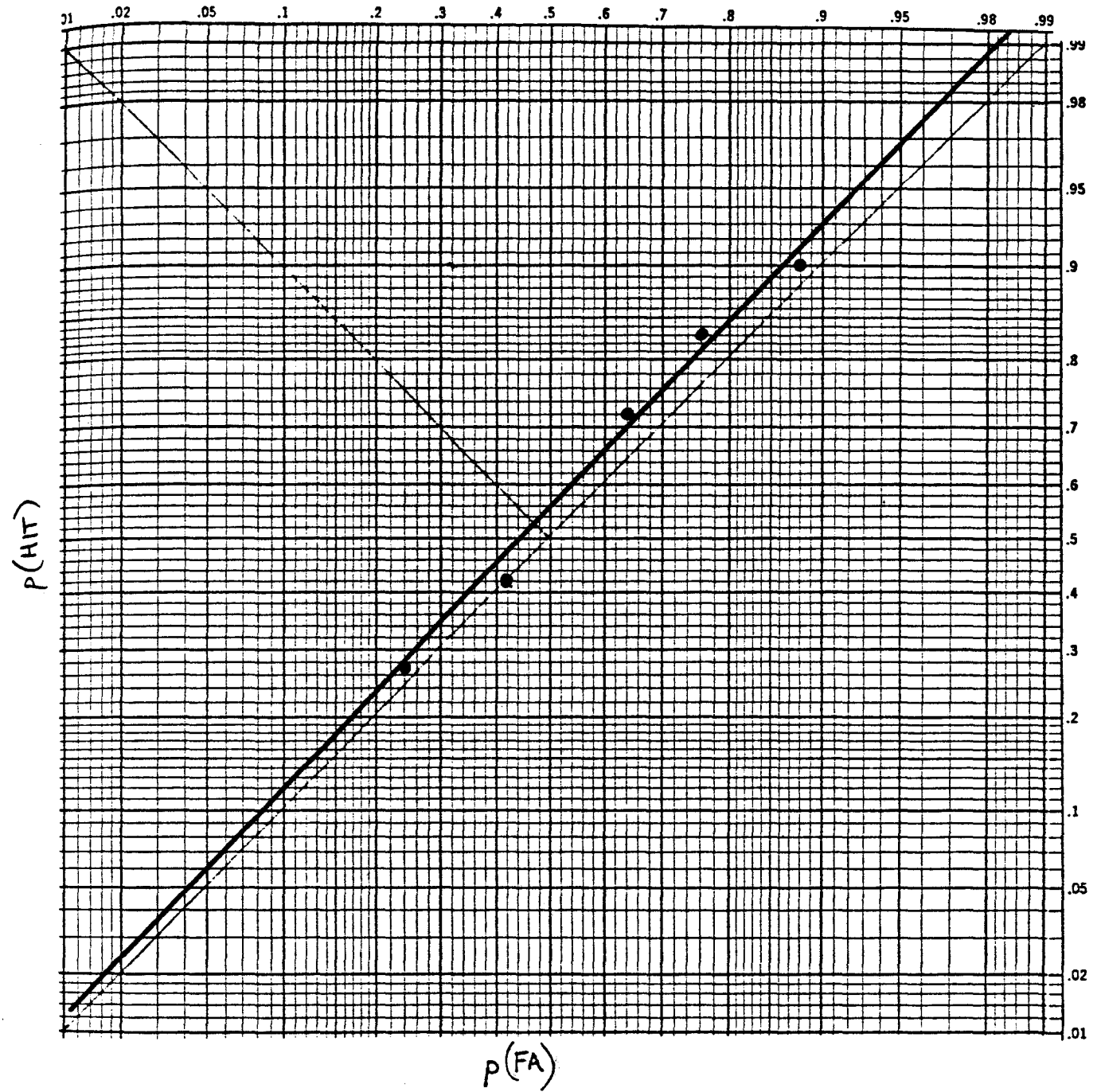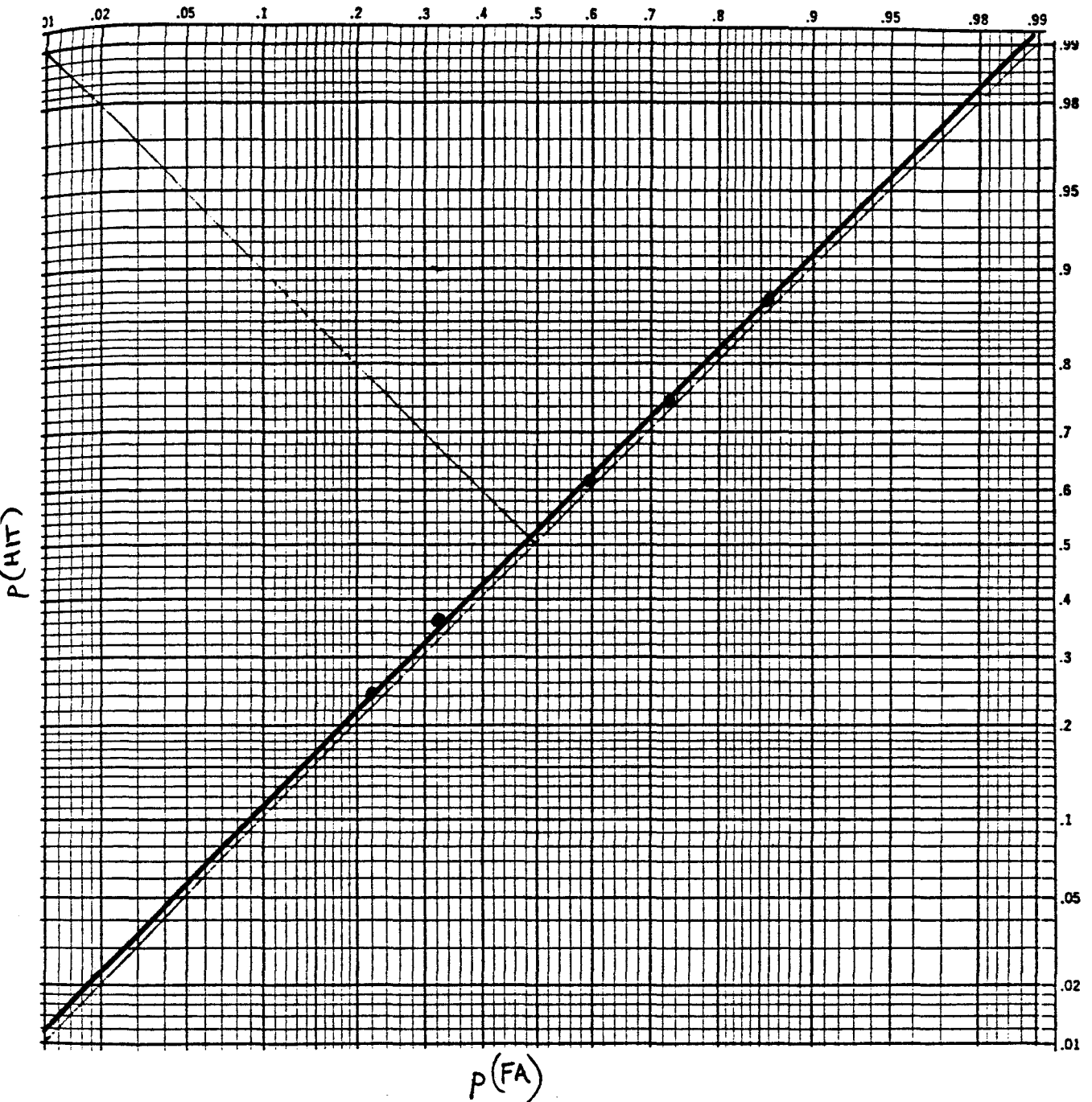
Figure 23.   ROC Curves for the Corpsmembers for Category 5,
Substance Abuse.
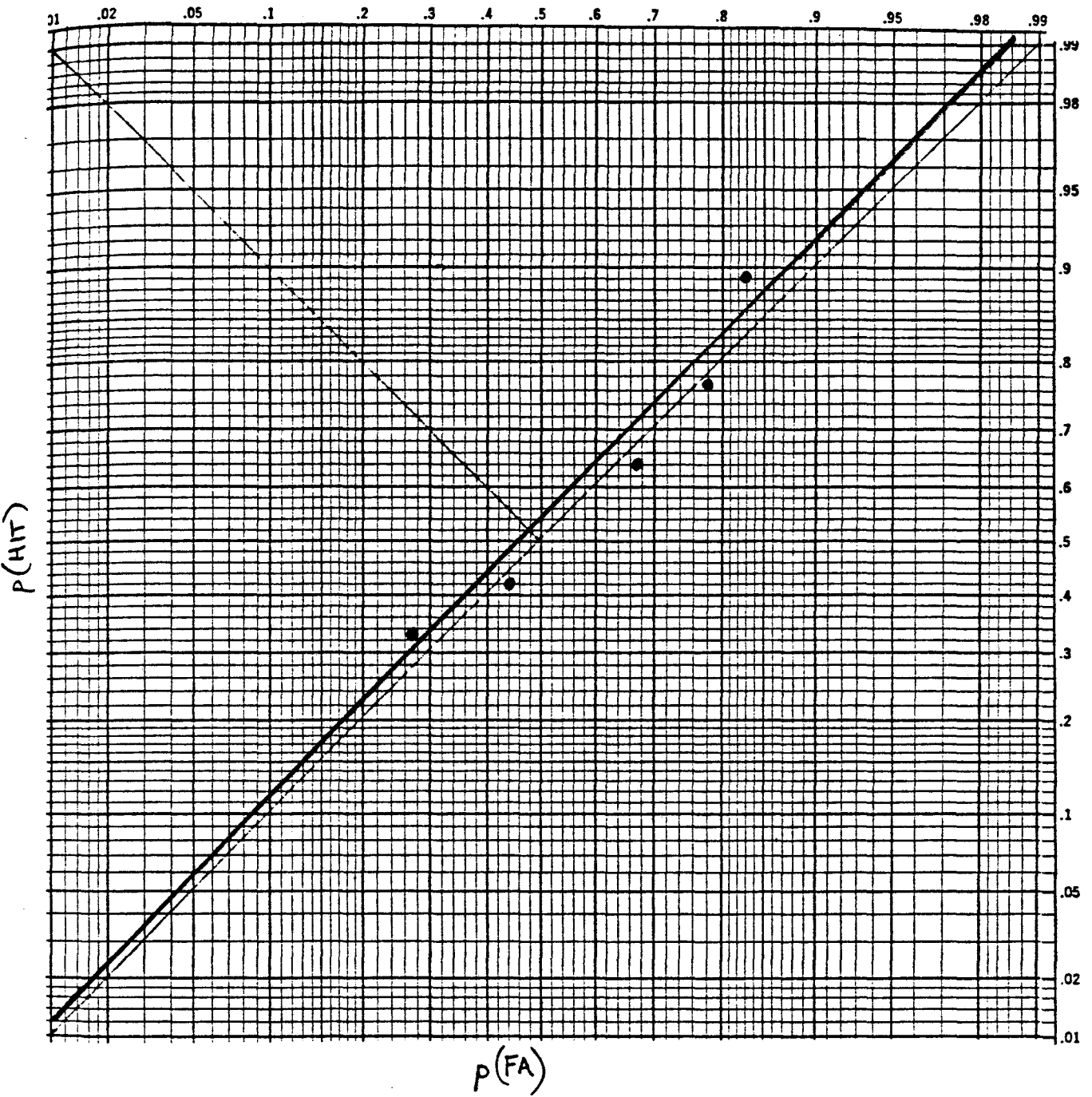
Figure 24. ROC Curves for the Control Group for Category 5, Substance Abuse.

can be found in Figures 21-24.

Category 6, Mental Health Problems. Category 6 inventory items
referred to mental health problems of the corpsmembers such as depres-
sion, hallucinations, etc. (Refer to Table 19 for a list of items in
category 6.)

Mental Health Consultants' response to category 6 items resulted
in a d' of 1.00 and a d_e' of 1.06. The HR was .95 and the FAR was .74.
Response bias, at .32, indicated that the Mental Health consultants
maintained a lax criterion favoring "Yes" responses while preference
at .85 indicated a strong bias toward "Yes" answers. Accuracy was .61.

Staff members' responses to category 6 items resulted in a d'
of .29 and a d_e' of .36. The HR was .85 and the FAR was .82. Response
bias was .89 indicative of a lax criterion while preference was .84.
Both response bias and preference indicated a bias toward "Yes" answers.
Accuracy was near chance at .52.

Corpsmembers' responses to category 6 items resulted in a d' of
.02 and a d_e' of .00. Response bias, at .99, almost equalled the point
of no bias in setting a criterion level. Preference, however, indi-
cated a strong bias toward "Yes" answers with preference equal to .70.
Accuracy was no better than chance at .51.

The control groups' responses to category 6 items resulted in a
d' of .18 and a d_e' of .08. The HR was .77 and the FAR was .71.
Response bias, at .90, indicated the adoption of a lax criterion
favoring "Yes" responses. This represents a criterion shift from the
three previous categories of items. Preference at .74 indicated a bias
toward "Yes" answers while accuracy was near chance at .53.

Table 27 summarizes the data for category 6 items. ROC curves can be found in Figures 25-28.

Staff Determined Signal and Noise Distributions. Since results of d' and d' were so small for staffs' and corpsmembers' responses to the distributions determined by the Mental Health Consultants, a second signal-noise and noise distribution was developed based on the responses of the center staff. Corpsmembers' responses to the new distribution were determined for the entire inventory in order to see if any higher agreement could be achieved between staff and corpsmembers.

Corpsmembers' response to the new distributions resulted in a d' of .33 and a d' of .40. The HR was .78 and the FAR was .67. Response bias was .82 indicating the adoption of a lax criterion biased toward "Yes" responses while preference was .73, also indicative of a bias toward "Yes" responses. Accuracy remained near the chance level with accuracy equal to .56.

Responses of corpsmembers to this new distribution are summarized in Table 28. The ROC Curve for this data can be found in Figure 29.

Table 27

Analysis of Category 6 Items, Mental Health Problems

RESPONDENT GROUP	CATEGORY 6, MENTAL HEALTH PROBLEMS						
	d'	d_e'	HR	FAR	β	Pref	Acc
Mental Health Consultants	1.00	1.06	.95	.74	.32	.85	.61
Staff Members	.12	.15	.85	.82	.89	.84	.52
Corpsmembers	.02	.00	.70	.69	.99	.70	.51
Control Group	.18	.20	.77	.71	.90	.74	.53
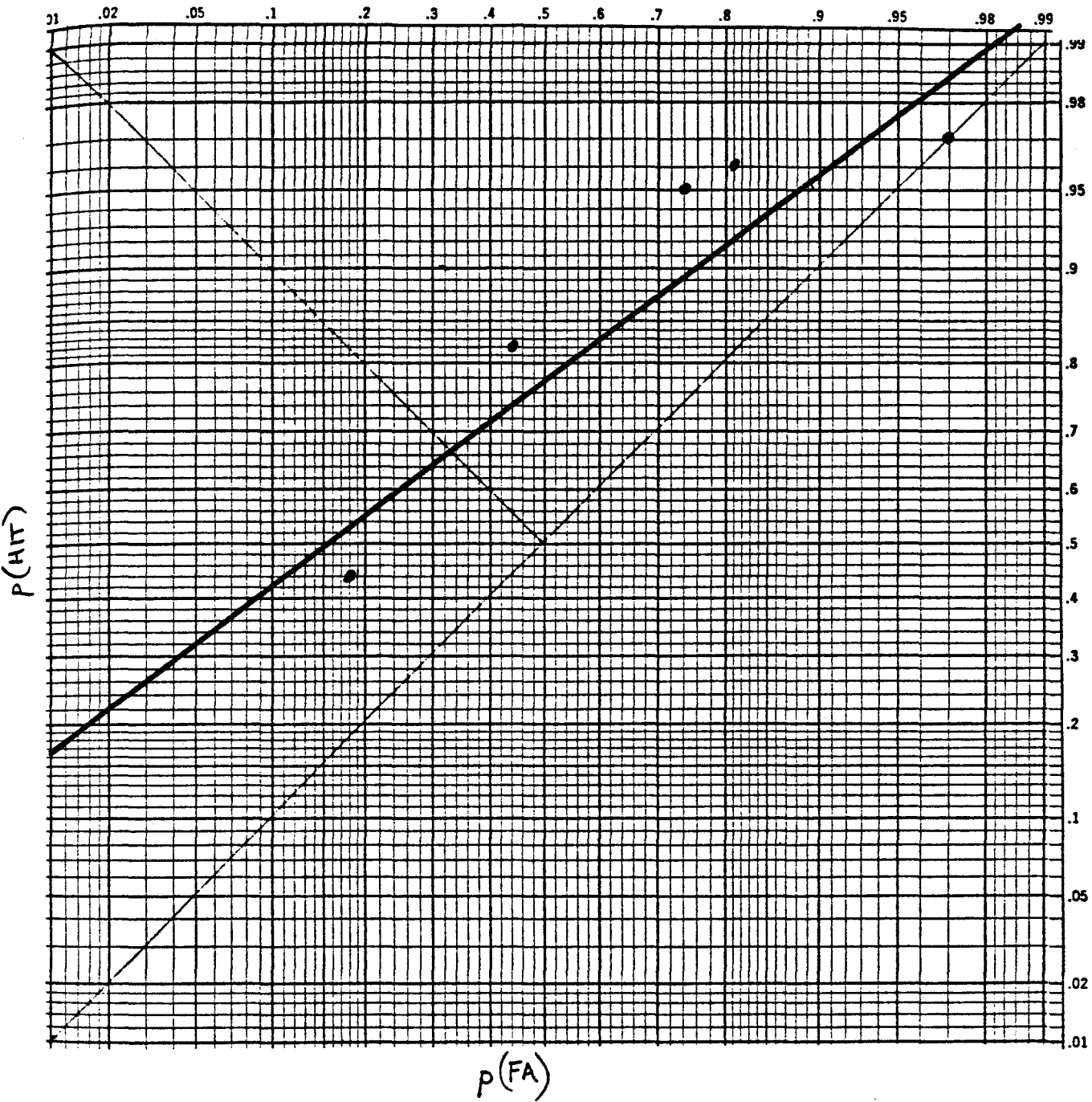
Figure 25.   ROC Curves for the Mental Health Consultants for

Category 6, Mental Health Problems.
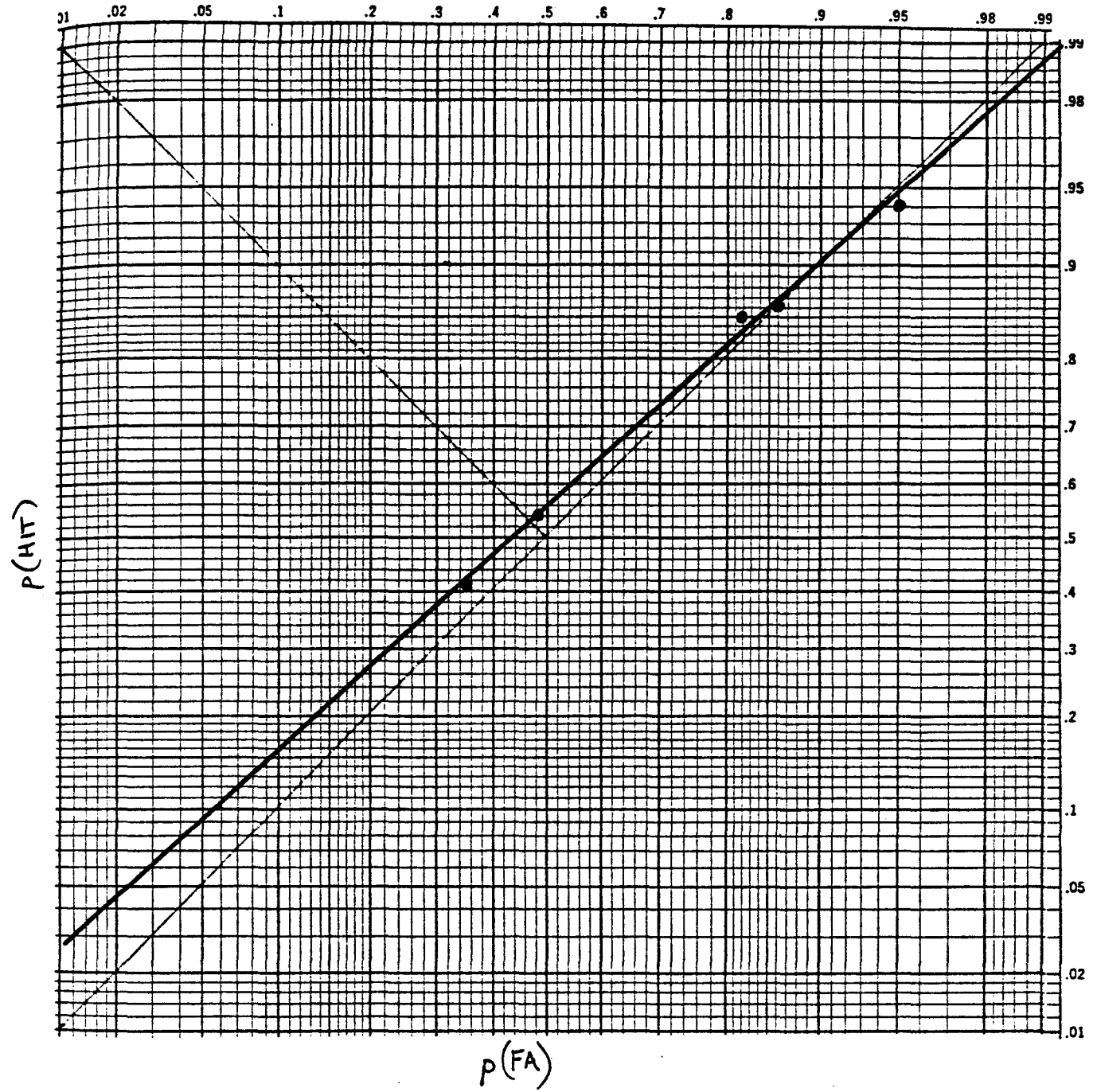
Figure 26. ROC Curves for the Center Staff for Category 6,
Mental Health Problems.
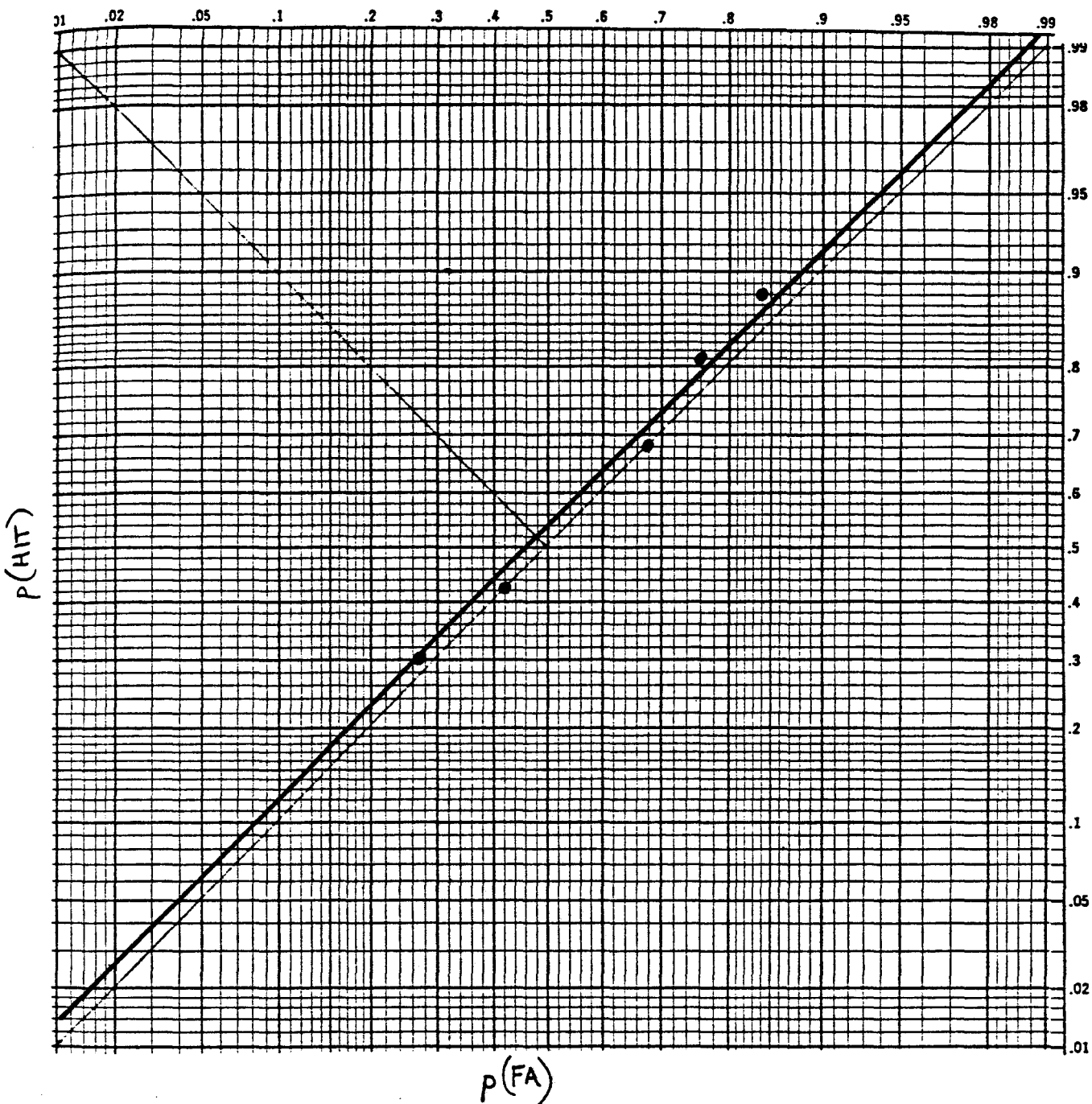
Figure 27. ROC Curves for the Corpsmembers for the Category 6,
Mental Health Problems.
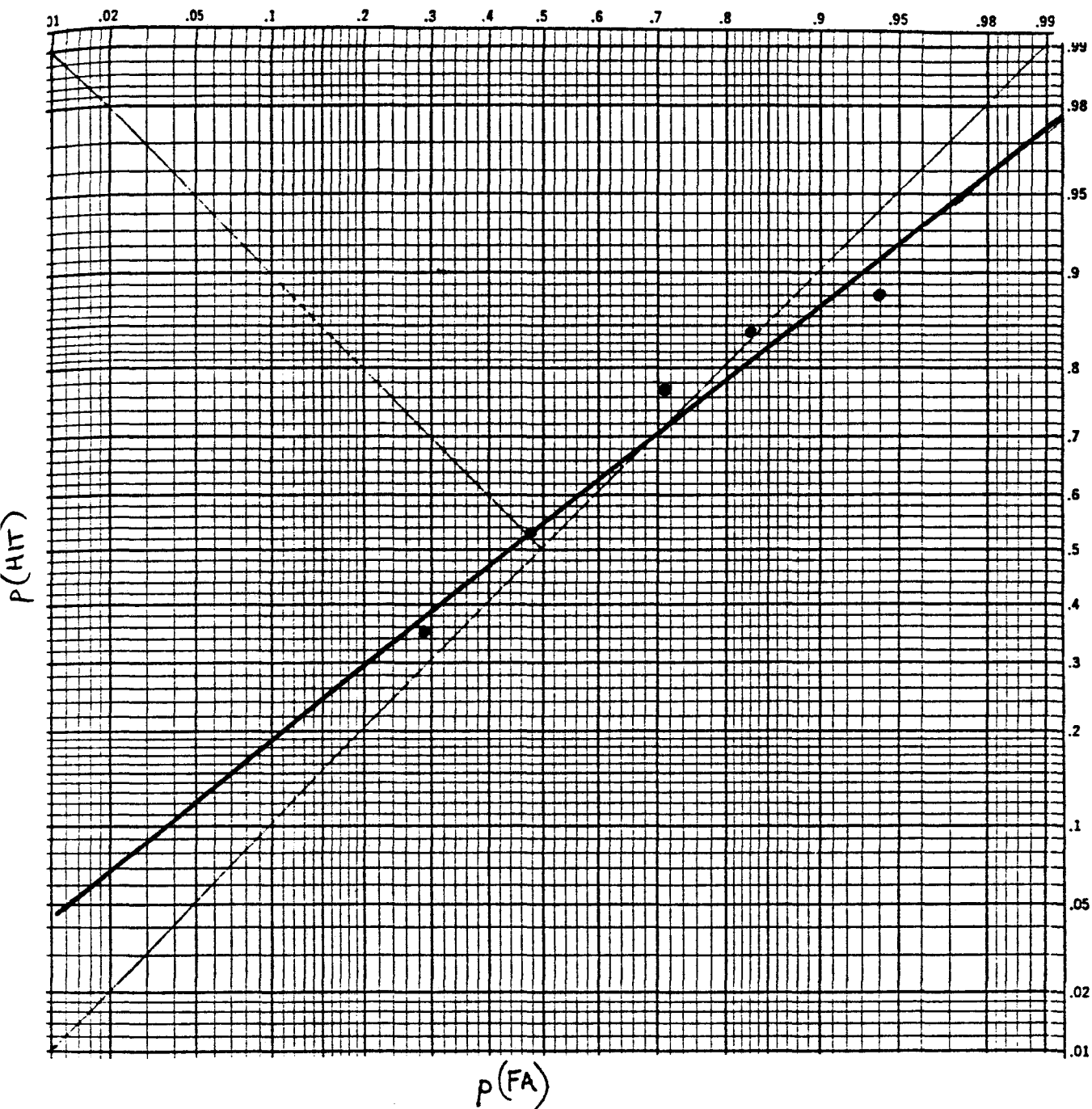
Figure 28. ROC Curves for the Control Group for CAtegory 6,

Mental Health Problems.

Table 28

Analysis of Corpsmembers' Responses to
Staff Determined Signal and Noise Distributions

	d'	d_e'	HR	FAR	β	Pref	Acc
CORPSMEMBERS' RESPONSES TO STAFF DETERMINED SIGNAL AND NOISE DISTRIBUTIONS (ALL INVENTORY ITEMS)							
Corpsmembers	.33	.40	.78	.67	.82	.73	.56

CHAPTER V

ANALYSIS, DISCUSSION, AND CONCLUSIONS

The organization of Chapter V includes summary statements regard-
ing the purpose of the study, the procedures utilized, and the delimi-
tations of the study. Chapter V also includes a discussion of the
results of the study, implications of the results for Job Corps as
well as implications for the use of a Signal Detection model in
questionnaires. Finally, specific conclusions will be presented as
will implications for future research.

Purpose of the Study

The purpose of the study is to develop a Needs Analysis Inventory
which can identify the mental health needs and problems of students
enrolled in the United States' Department of Labor's Job Corps Program.
It is assumed that this Inventory can provide more accurate informa-
tion to Job Corps' National Health Office than the current methods
by which this data are presently collected.

The Procedures

The procedures used·in the development and analysis of data are
based upon a Signal Detection model. Categories of mental health
needs and problems were derived from the results of a preliminary
questionnaire administered to mental health consultants to Job Corps
and the corpsmembers at the Cincinnati Job Corps Center. Three sets
of inventory items have then been developed. The first set reflects

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the broad categories of mental health needs and problems. Additional inventory items have been developed which did <u>not</u> reflect the categories of needs and problems (blanks) while the third set of itmes were intentionally ambiguous. The final questionnaire has been administered to mental health consultants, center staff, corpsmembers, and a comparison group of high school students (total N = 116). Hit Rates, False Alarm Rates, d', d'_e, β, Preference and accuracy were calculated.

The Delimitations

The study does not attempt to resolve the problem of needs definition.

The study does not attempt to diagnose corpsmembers.

The study does not attempt to evaluate Job Corps mental health staffs' abilities to identify mental health problems or needs.

The study does not attempt to predict future mental health needs or problems in Job Corps applicants. Rather the study focuses on more clearly identifying the mental health needs and problems of corpsmembers currently enrolled at centers.

The study is limited to only those corpsmembers who are currently enrolled in the Job Corps program.

The study does not attempt to evaluate administrative or clinical policies and procedures at any given Job Corps Center.

ANALYSIS

In general, the range of obtained d' and d'_e,[1] indicates that
there seems to be little or no congruence between what the mental health
consultants described as important for corpsmembers, on the inventory,
and how the center staff and corpsmembers view the same mental health
problems and needs as depicted on the inventory. At best there seems
to be some agreement between the mental health consultants and center
staff in how they view some very basic needs of corpsmembers as measured
by the category of personal needs--privacy of corpsmembers, financial
concerns, length of stay in Job Corps, etc. In all other categories of
the inventory, corpsmembers and staff are in basic disagreement with
the mental health consultatns and with each other.

Essentially, what exists are three mutually exclusive opinions as
to what actually constitutes a mental health need and problem for
corpsmembers. Given this finding the analysis will address each cate-
gory of the inventory separately.

Category 1, Personal Needs. Category 1 items typically were
representative of those concerns of corpsmember's privacy, length of
stay in Job Corps, and financial obligations. Mental health consultants
and staff members are in basic agreement in how they view this category
of items as measured by d'_e (Refer to Figure 1). Although there is
still a large area of overlap between the two distributions, the staff

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[1]Typically, d' ranges from zero to +4.64. A d' of +1.00 means
that the distributions are one standard deviation apart, $\bar{d}'$ = +2.00
means that the distributions are 2 standard deviations apart, etc.
A d' = 0.0 means the distributions overlap, or stated differently,
respondents could not differentiate between the two distributions.

Figure 1. Distributions for Staff Members and Corpsmembers for
Category 1, Personal Needs

$$d_e = 1.10 \qquad\qquad d_e = .61$$

STAFF   CORPSMEMBERS

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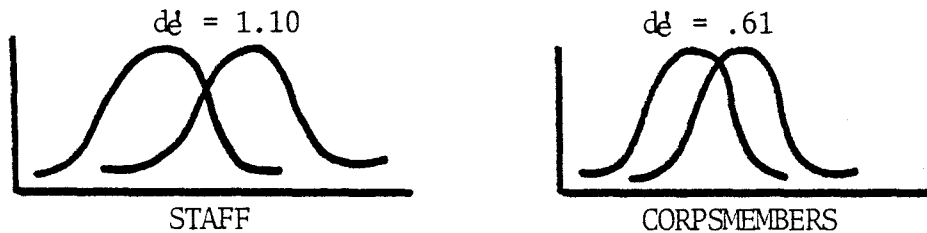
members virtually duplicated the mental health consultants' responses.
Staff members' HR, FAR, preference for "Yes" responses, and accuracy
are basically identical to the mental health consultants. Both groups
also established the same lax criterion for these items.

Corpsmembers, however, while replicating the mental health con-
sultants accuracy, preference for "Yes" responses, and similar lax
criterion, achieved a much smaller d' and d_e indicating that they could
not differentiate between the two items in the same fashion as the
staff could. (Refer to Figure 1.) However, corpsmembers and the
comparison group of Clemente High School students scored similarly. It
can be concluded that the mental health consultants and staff members
are in basic agreement that corpsmembers need privacy, that they should
feel safe while they are at the center, and that the corpsmembers'
finances (wages, etc.) should be explained to them.

It is of interest to note that the items included in this category
can be described as being the least abstract and least psychological
in nature. Individuals evaluating these items can rely on "common
sense" and "intuition" rather than any special knowledge of psychology

or counseling.

Category 2, Mental Health Needs. Category 2 typically involved items representative of training corpsmembers in assertiveness training, problem solving, and adapting to the center regulations. Neither staff nor corpsmembers are in basic agreement with the mental health consultants as measured by d_e'. (Refer to Figure 2.)

Figure 2. Distributions for Staff Members and Corpsmembers for Category 2, Mental Health Needs

$$d_e' = .48 \qquad\qquad d_e' = .30$$

STAFF   CORPSMEMBERS
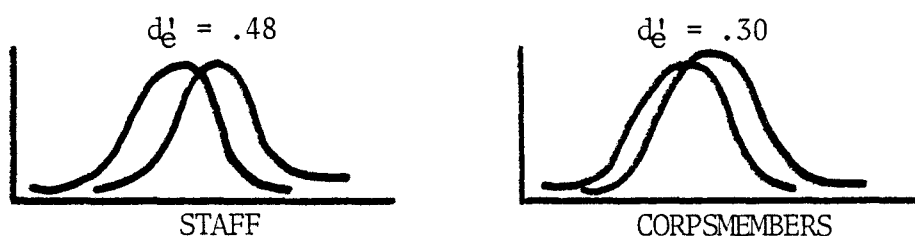
Neither the staff nor corpsmembers (and for that matter the comparison group), could differentiate between the two distributions as defined by the mental health consultants. Given the obtained d_e', the staff and corpsmembers do not agree with the results obtained from the mental health consultants.

It could be argued that items in Category 2 require a fine-grain analysis to determine the noise and signal-noise implying a certain data base or frame of reference. However, the accuracy of staff members and corpsmembers approximated chance responding (.55 and .54 respectively). This random responding tends to suggest several alternative interpretations.

Typically, d's and accuracy scores of this nature tend to suggest

that the respondents were "guessing" at most of the items. In short, they could not discriminate between a noise item and a signal item. If they were guessing a question arises. Were they guessing because they lack a comparable data base to that of the mental health consultants?

Alternatively, the mental health consultants achieved a d_e' of 1.01 which suggests a fair amount of diversity of opinion within this group. It is also possible that corpsmembers and staff are merely reflecting a broader spectrum of opinions regarding these items.

Finally, it could be assumed that for most of the corpsmembers (and possibly staff) this might be the first time they have been asked to comment about this specific type of information. The nature of the inventory items can be conceptualized as a novel stimulus. A novel stimulus could account for the random responding.

If any of these conditions accurately represent the findings, training of staff and corpsmembers might be suggested. If the results of corpsmembers and staff are due to guessing or novelty, then both groups lack the information required to evaluate and judge whether these items are in fact necessary for corpsmembers. In this case training as to what types of programs could be utilized would be appropriate. If the results indicate a broader spectrum of opinions, then obviously many philosophies are interacting at the same time which probably presents managerial and administrative problems. In this case training of the "official" policies and procedures might be required stressing more the managerial controls necessary for implementing the "official" policy.

Category 3, Support Systems. Category 3 items referred to corps-
members' need for developing friends and maintaining some type of sup-
port system while in Job Corps. Again, the responses of corpsmembers
and staff are in basic disagreement with the responses of the mental
health consultants. (Refer to Figure 3.) The obtained d' and d_e' of

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Figure 3. Distributions for Staff Members and Corpsmembers for
Category 3, Support Systems

$$d_e' = -.05 \qquad d_e' = .10$$

STAFF   CORPSMEMBERS

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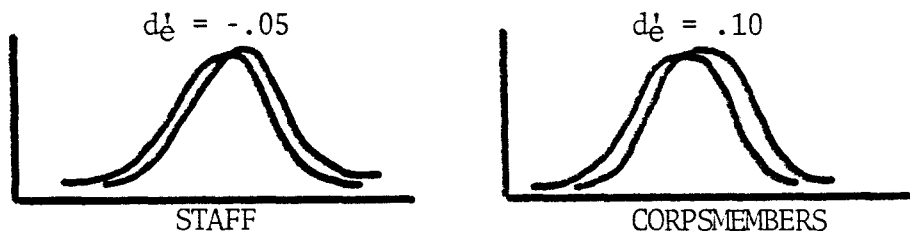
corpsmembers and staff suggest that neither group could differentiate
between the noise and signal populations as defined by the mental
health consultants. Of interest, however, is the difference in the
criterion level established by the various groups. The mental health
consultants established an extremely lax (.09) criterion indicative of
a strong bias toward "Yes" responses. This was coupled with a strong
bias for "Yes" as indicated in their preference score (.60). On the
other hand, although corpsmembers and staff had a strong bias for "Yes"
answers as measured by preference (.73 and .83 respectively) staff
members had established a strict criterion (1.12) for this category of
questions which acted as a bias for "No" responses (No, not a problem/
need). For this category of items, the mental health consultants were
willing to include (say "Yes" to-) any item which remotely resembled or

described a need. This difference in response bias could account for the disparity between the groups.

Category 4, Sexuality. Category 4 items referred to sexual relations of corpsmembers and birth control. Again, the corpsmembers and staff demonstrate very little agreement with the mental health consultants in this category of items as measured by the obtained d_e'. In fact, the corpsmembers' d_e' (0.0) indicates that, to them, there is absolutely no difference between those items the mental health consultants considered to be signal and the items the mental health consultants considered to be noise. Staff members agreement with the mental health consultants was also minimal. (Refer to Figure 4.)

Figure 4. Distributions for Staff and Corpsmembers for Category 4, Sexuality

$d_e' = .61$ STAFF

$d_e' = 0.0$ CORPSMEMBERS
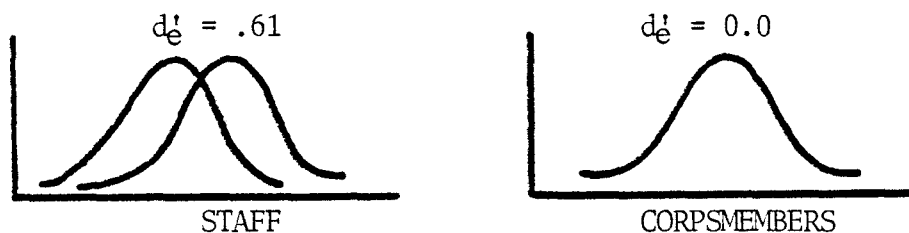
Although preference for all three groups indicated a strong bias for "Yes" answers, differences existed in the criterion adopted. The response bias for both mental health consultants and staff members indicate that they adopted a lax criterion while corpsmembers had adopted a strict criterion. This could account for some of the discrepancies in the scores. More importantly, the age of the corpsmembers (16-22) probably accounts for their d_e' equal to zero. They are at an

age where sexuality is of the utmost importance. Thus they have esta-

blished a strict criterion for calling an item about sex as problematic.

This can be seen in their accuracy score (.49) which is below the

chance level and typical of random responsing, i.e., nothing is a need,

everything is a need, nothing is a problem, everything is a problem.

This also would seem to be corroborated by the negative and low d'

(-.10) of the comparison group.

Given the obtained d' and d_s' of the corpsmembers and staff, it

is sage to assume that these two groups view the sexual problems and

needs of corpsmembers differently from the mental health consultants.

For corpsmembers, it is interesting to note that the FAR (.73)

is higher than their HR (.71). This is of special interest since the

corpsmembers' HR is fairly consistent across categories. When the

items in the noise population are evaluated, 50% of these items

involve some type of instructions or information. It would seem that

corpsmembers (and probably staff) place more emphasis on the role of

sex education than the mental health consultants. Given this informa-

tion, the data tend to reflect a philosophical difference regarding

sex education in Job Corps. Should more sex education be conducted

in Job Corps? If so, who should do this? The obvious group to do

this would be the mental health consultants. However, by including

this in the noise population, the majority of mental health consultants

have indicated that formal sex education is not a corpsmember need or

problem.

Mental health consultants addressed the problem of pregnancy by

including birth control information as signal-noise items in this

category of questions. However, the emphasis on birth control (and not sex education per se) seems to underscore the pathological approach based on elimination of symptoms.

The findings of the inventory for sexuality items tends to suggest that mental health consultants view the sexuality problems and needs different from the way in which the staff and corpsmembers do. The findings suggest that possibly there exists a philosophical difference between the two groups as to what should be presented to corpsmembers and (potentially) who should present the material (sex education). Finally, the age of the corpsmembers is a factor which probably interacted with corpsmembers' results.

Category 5, Substance Abuse. Category 5 inventory items referred specifically to the use of alcohol and marijuana by corpsmembers.

Given the low d' and d_e of the staff and corpsmembers, again it is safe to assume that the staff and corpsmember view substance abuse differently from the mental health consultants. What is of interest is that although all three groups exhibited a bias to "Yes" responses in their preference scores, response bias indicate that all three groups established criterions at close to the "no-bias" level (β = .99, .99, .93 for mental health consultants, corpsmembers, and staff respectively). This is the only category for which response bias is close to the "no-bias" level. It could be hypothesized that this finding is a result of the Substance Abuse Training program conducted by the National Health Office. A major thrust of the Substance Abuse Training Program is that an objective, non-emotional approach is made to the problem of substance abuse. Although it is questionable whether

the Substance Abuse Program actually curtails corpsmembers' substance use (no evaluation has been performed) the results of the response bias of all three groups would seem to indicate that "something" has happened, at least at one center, in terms of how the issue of substance abuse is viewed by corpsmembers, staff, and mental health consultants.

A potential difference in this category is that the signal and noise distributions established by the mental health consultants (refer to Chapter 4, Table 18) would seem to indicate a permissive and less restrictive attitude toward substance abuse than those which might be established by staff members who would have to deal with the daily problems inherent in substance abuse (intoxication, illegalities, trafficking, etc.). Again, corpsmembers are at an age where experimentation with alcohol and other illegal substances is probably at its greatest which could account for their low scores.

Figure 5. Distributions for Staff and Corpsmembers for Category 5, Substance Abuse

$$d_e^! = .05 \qquad d_e^! = .10$$

STAFF   CORPSMEMBERS

Given the obtained $d_e^!$, it is safe to assume that corpsmembers and staff view the issue of substance abuse differently from the mental health consultants.

Category 6, Mental Health Problems. Category 6 items referred

to those mental health problems experienced by corpsmembers such as stress, depression, psychosis, etc.

Again, given the obtained d_e' values for corpsmembers and staff, it is safe to conclude that their views of mental health problems are different from those of the mental health consultants.

Of interest is that the mental health consultants had established a very lax criterion for calling something a problem (β = .32) while staff and corpsmembers also established lax criterions (β = .89 and .99 respectively) the criterions established by the latter groups are closer to the point of "no bias." Again, the preference scores of all three groups are indicative of a bias to "Yes" responses.

As in category 4 (sexuality) the corpsmembers d' was 0.0 indicative of a complete overlap between the two distributions. Stated differently, the corpsmembers were unable to differentiate between whether an item represented a problem or not. Their responses are again typical of a chance responding pattern or random responding. It is difficult to imagine that corpsmembers have not come into contact with individuals who are experiencing behavioral or emotional problems and it is also difficult to imagine that corpsmembers do not have some opinion as to what constitutes a behavioral or emotional problem. What is of interest is that of the eleven signal items in this category (refer to Chapter 4, Table 19) only two items are representative of a "preventative" approach; "corpsmembers need information regarding the kinds of stress which they will undergo while at the center," and "corpsmembers should be able to recognize when they are depressed." All of the other signal items relate to some type of pathological behavior. Although it is

logical that statements regarding pathology should be viewed as Signal items in a category nominally entitled "Mental Health Problems", many of the items typical of a preventative approach were considered as Noise items. It is also of interest that during the developmental testing, when there was an opportunity to discuss each item with control subjects, many of the Noise items in this category were singled-out by students as desirable for themselves or their school program. Given this information, it is easy to understand the high FAR achieved by corpsmembers (and staff) which resulted in a low d' and d_e' score. (Refer to Figure 6.)

Figure 6.   Distributions for Staff and Corpsmembers to Category 6, Mental Health Problems

$$d_e' = .15 \qquad\qquad d_e' = 0.0$$

STAFF   CORPSMEMBERS
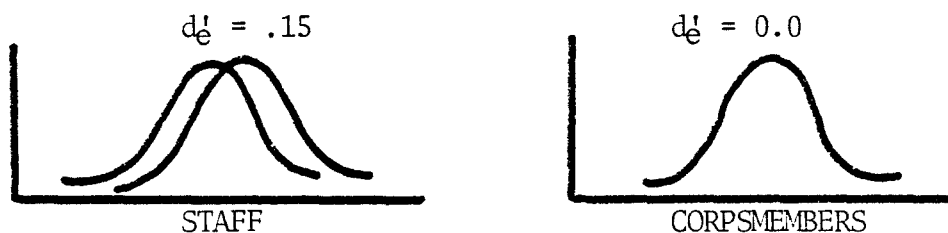
Again, the results of category 6 prompt the same question as the results of category 4, sexuality. Is there a philosophical difference between the manner in which the mental health consultants view mental health problems and the manner in which the staff members and corps-members view the same? Or do staff and corpsmembers lack the necessary data base by which to identify mental health problems at the center? If the latter is valid, training programs should be developed at least for center staff in what constitutes a mental health problem

versus what is "normal" adolescent behavior. If the former is valid, managerial and administrative policies and procedures might be required.

DISCUSSION

In general, there seems to be little or no congruence between what the mental health consultants described as important for corpsmenbers, on the inventory, and how the center staff and corpsmembers view mental health needs and problems. At best there is some congruence between the staff and mental health consultants in how they view the personal needs of financial concerns, privacy for corpsmembers, and safety of belongings. For all other categories of items neither the staff nor the corpsmembers agree with the mental health consultants as to what is a need/problem and what is not a need/problem as measured by the inventory.

These results prompt several questions:

(1) Is there something inherent in the way which staff and corps-members responded which is intrinsically different from the responses of the mental health consultants?

(2) Are there any extraneous variables operating which could have influenced the corpsmembers or staff in how they responded?

(3) Given that the corpsmembers and staff disagreed with the mental health consultants definitions of signal and noise (need/non-need, problem/non-problem) how congruent are the corpsmembers and staff to each other?

(4) Is a Signal Detection model applicable to the questionnaire
process?

These questions will be discussed by addressing the strategies
and decision rules of each respondent group, staff determined noise
and signal-noise distributions, extraneous variables, and the
applicability of the Signal Detection model.

Strategies and Decision Rules. For some of the respondents
strategies and decision rules regarding how they responded to the
inventory are obvious. The mental health consultants are a case in
point.

As a group, the mental health consultants adopted extremely lax
criterions for answering the inventory. In some instances, the
response bias was as low as .09 and .19. In all cases, the response
bias was lax and favored a "Yes" response. Again, in all cases, the
mental health consultants showed a bias to "Yes" answers in their
preference score. Preference ranged from a minimum of .60 to a maximum
of .89. The establishment of a lax criterion and the preference for
"Yes" responses can be summarized by the decision rule "If in doubt,
call the presentation a need or a problem." This could also be seen
as the maximum "Better safe than sorry." Given that most, if not all
of the consultants, are also clinicians, this decision rule can be
viewed as one which minimizes the chance that the traditionally defined
Type I Error will occur (rejecting H_0 when H_0 is true) and one which
typically minimizes probmes in a clinical practice. The trade-off
however is an increase in the traditionally defined Type II Error
(accepting H_0 when H_0 is false) which is reflected in the FAR of the

mental health consultatns in all categories.

Staff members seemed to be operating under a different strategy. Staff members' response bias varied from a low of .42 to a high of 1.12. Most of the time, the criterion adopted was lax which would bias staff answers to a "Yes" response except in one category, support systems, where the staff exhibited a criterion shift to a strict criterion. However, the HR of the staff remained fairly constant ac oss all categories at +5 points. This type of responding is typical of an attempt to maintain a high HR, no matter what. This could account for the negative d' staff attained in category 3, support systems. It is also of interest to note that the staff maintained a fairly consistent preference rate with a strong bias of "Yes" answers.

The corpsmembers' response strategy is not so obvious. It almost seems as if two different response strategies were utilized, one for those items related to problems and a second for the inventory as a whole. For those categories of items which may typically be thought of as problem-oriented (mental health problems, substance abuse, and sexuality) the corpsmembers HR and FAR were consistent. Of more interest is the difference between the HRs and FARs for these three categories. In each case, the difference between the HRs and FARs was either one or two points resulting in accuracy scores either at or below chance. When accuracy is this low, it typically suggests a certain randomness in the responding. However, as Sidman has suggested, random responding is simply another way of stating that the subjects are responding to a non-experimenter stipulated variable. In this case, it would seem that the corpsmembers' age group might be a factor

interacting with the corpsmembers' perceptions of problems and needs. As stated earlier, corpsmembers are at an age when sexuality and experimentation with substances (especially alcohol and marijuana) are at their greatest. Also, the pathological orientation of the signal items in the mental health problems category could suggest a high FAR. It could be hypothesized that the corpsmembers' "random responding" is more a function of their age and the pathological orientation of the category of mental health problems.

When viewing the pattern of corpsmembers' responses, as a whole, the pattern is similar to that of how the staff responded. Although not as consistent as the staff, corpsmembers' HR were basically the same across all categories. Corpsmembers also exhibited a criterion shift. The pattern, again, is suggestive of that type of responding where the subjects are trying to maintain a high HR. In this sense, it would seem that corpsmembers and staff viewed the inventory as a "test" even though instructions stated that there were no "right and wrong" answers only opinions. This tends to suggest that both groups' histories of test-taking contributed as much to the results as did the instructions given before the administration of the inventory.

Staff Determined Signal/Noise Distributions. Given that neither the staff nor the corpsmembers were in basic agreement with the mental health consultants, the question arises, were the corpsmembers and staff in agreement with each other?

In order to test this question, the signal and noise distributions were re-determined. This time, the responses of the staff were utilized to establish the noise and signal populations. The same

rule was applied to the staff responses as was used for the mental health consultants, i.e., if 5/7 of the staff were in agreement that an item was a signal item, it was so considered. If the 5/7 inter-rater reliability was not achieved, the item was considered as a noise item. In this case 34 items were determined by staff to be signal items while 66 items were considered as noise. Given this distribution, it was impossible to maintain the same six categories of inventory items as were utilized in the initial analysis. Thus the comparison was made for the corpsmembers on the test as a whole.

Utilizing the staff determined distributions, the corpsmembers achieved a d' of .33 and d_b of .40. This can be compared to the corpsmembers' d' of .20 and d_b of .20 for the entire inventory when the mental health consultant determined distributions were used. Although a higher d' was achieved, it is not a significant improvement.

Corpsmembers' response bias to the new distribution was .82, preference was .73, while accuracy was .56. In short, the corpsmembers' responses to the staff determined signal and noise distributions was basically the same as the results of the corpsmembers' responses to the mental health consultants. Even though the corpsmembers and staff seemed to have the same type of response strategy, they still do not agree on content or issues.

This second distribution tends to suggest that the three groups, mental health consultants, staff, and corpsmembers, do not agree with each other as to what constitutes a mental health need or problem as measured by the inventory. It is as if each group has its own opinion and the opinions are mutually exclusive of one another. It is

reminiscent of the blind men describing the elephant. Each group in its own way, is right while each is also wrong.

It can be hypothesized that the mental health consultants' knowledge of normal and abnormal behavior and of the needs and problems of individuals and groups is based on a philosophy(ies) and orientation(s) which can be thought of as characterized by certain sets of assumptions, principles, and behaviors. Within this theoretical framework, there exists a tendency to assume that the orientation not merely describes but produces the behavior. As long as this orientation is maintained, there is agreement about the meaning of the perceived behaviors in others. Conversely, any deviation in the orientation results in disagreement about the meaning of the perceived behaviors. The staff members, with overriding operational responsibilities view many of the items differently from the mental health consultants. Obviously, they are influenced by impact of day-to-day operations of a center. This can be seen specifically in the low obtained d' and d_e' scores for staff on the mental health consultant determined signal noise distributions and in the number of items which staff considered signal and noise in the second distribution. Category 5, substance abuse items are a specific example. Seemingly, a critical dimension which made an item a noise item for the mental health consultants, was the variable OFF. (Refer to Chapter 4, Table 18.) It could be argued that when a corpsmember is off campus this is free time and the corpsmember should be permitted to what he or she wants, within reasonable limits. Since corpsmembers are adolescents, it is also reasonable that they will experiment with substances. Thus, it is a "normal" activity of an

adolescent. However, what this orientation ignores is the residential aspect of Job Corps and the operational problems of trying to get a "bunch of intoxicated kids to bed," the in loco parentis aspect of staff's role, the potential illegalities of underaged youth buying substance, car accidents, etc. What can be added to this is then the third orientation of the corpsmembers.

This finding of disagreement among the three groups was a finding of the 1972 substance abuse study conducted in Job Corps. In that study, the corpsmembers, staff, and National Health Office all had differing perceptions of the amount, frequence, and type of substance abuse in Job Corps. That same basic disagreement can be seen in the mental health consultants', staffs', and corpsmembers' perceptions of mental health needs and problems.

In summary then, the mental health consultants seemed to view the inventory from a theoretical orientation derived from their clinical experiences. Corpsmembers and staff seemed to view the inventory as a "test", in which both groups tried to get as many "right" answers as possible. Additionally, the corpsmembers' age probably interacted with many of the items in terms of not considering many of the items as problems. Finally, the day-to-day operational concerns of staff members seemed to influence the manner in which the center staff responded to the inventory.

Extraneous Variables. The high FAR of corpsmembers and staff tend to suggest that these groups were responding to something other than the stimuli presented. A variable previously mentioned was the response strategies adopted by the various groups. Corpsmembers and

staff seemed to view the inventory as a "test" with right and wrong answers.

A second extraneous variable could possibly be the national unemployment rate. With unemployment for adolescents at 20% (and even higher for minority adolescents) there possibly could have existed an attitude of "what difference does this make?" A corollary to this might be an attitude of indifference by corpsmembers and staff. Staff might have viewed completing the inventory as an intrusion into an already busy and overworked schedule whole corpsmembers possibly viewed the task as "something to do instead of going to class." In short, the completion of the inventory could have been viewed as having no immediate and concrete contingencies for them, so why take it seriously.

A final source of extraneous variables could be that some of the items are "poorly" written. However, this is not as glaring a weakness as initially suspected. Undoubtedly, some of the items could be misconstrued. However, what must be remembered is that the Signal detection model assumes that there is always some "overlap" between the noise and signal distributions. It might be recalled that three classes of items were written:

(1) those items descriptive of a need or problem,

(2) those items which were not descriptive of a need or problem, and

(3) items representing the overlap between (1) and (2) above.

The Signal Detection model assumes that some ambiguous questions are presented. Thus, it was intentional that some of the items be "poorly" written.

As a check on how well the inventory items were written, certain inferential statistics were utilized to determine the validity of the individual items. (Refer to Appendix E for item-by-item statistical analysis.) Since this analysis was not germaine to the present investigation, the statistics were not reported in Chapters 3 and 4. Using Pearsons X^2 Test for Independence, the following breakdown of the significance of the respondents can be seen:

(1) Twenty-nine (29) inventory items achieved statistical independence with α = .001 to .05.

(2) Twelve (12) items achieved statistical independence with α = .06 to .10, and

(3) Fifty-nine (59) items did not achieve independence (α greater than .10).

In short, 41 items achieved independence while 59 did not. This distribution, although not equal to, closely resembles the noise and signal distribution of 48 signal items and 52 noise items. Some of the "poorly" written items can thus be seen as "well" written noise items which force subtle discriminations between noise and signal items. In this sense, the inventory required "poorly written" questions which could be "correctly rejected."

Applicability of Signal Detection Model. The question arises, does the Signal Detection model apply to the questionnaire process, particularly given the accuracy scores and the paucity of agreement?

One must ask what would happen if Job Corps simply relied on the inferential statistical data exhibited in Appendix E. Given these results, programs could be funded and developed and offered to centers

for staff training or consultation. What success would these programs have? Without some measure comparable to a False Alarm Rate, the data is only a measure of a "signal", simply a measure of agreement to any presentation regardless of whether that item corresponds with "reality" or not.

The correspondence issue is of basic concern. Questionnaires are constantly developed and utilized in data collection procedures yet their validity (in a non-statistical sense) is often suspect. The issue reverts to Goldiamond's accuracy and semantic indicators. The inventory items when seen from the perspective of the inferential statistical data are merely semantic indicators. The item can be assumed to exhibit some "stimulus related experiential" factor. The Signal Detection analysis transforms these semantic indicators into accuracy indicators. The noise and signal populations define accuracy, not the statistical agreement.

In this sense, it must be answered that "Yes" the model is highly applicable to the questionnaire process. In fact, it could be argued that the model also fits the interviewing process by extension. Noise items, or "blanks", must be included in the questionnaire and interview process. The Minnesota Multiphasic Personality Inventory (MMPI) Lie (L) Scale begins to approach this. Although not thought of as traditional "noise" presentations, these items are in fact "blanks." A response of "Yes" to these items tends to invalidate the results of the MMPI, regardless of the achieved profile.

It can be concluded that the model does fit the questionnaire process. The low d's are not indicative of a paucity of results, merely

a reflection of lack of agreement of the respondents. The lack of
agreement is something Job Corps has already experienced in other
studies. It is simply corroborated in the current investigation.

IMPLICATIONS

Implications for Job Corps

It would seem that given the results and analysis of the study,
there are at least two major implications for Job Corps.

The first of these is obvious. A disparity exists between the
way in which mental health consultants view the mental health needs
and problems of corpsmembers when compared to the manner in which
center staff and corpsmembers evaluate these same needs. A corollary
is that center staff and corpsmembers do not agree with each other
.either. The obvious concern is how any mental health program can be
expected to achieve success when it seems obvious that the different
groups do not rely on the same basic definition of terms.

Unfortunately it is difficult to evaluate which of the three
groups is "out-of-sync." Is it that each group is partially right and
partially wrong? Are the mental health consultants "too theoretical?"
Do (especially) staff and corpsmembers lack the psychological sophisti-
cation to evaluate what actually constitutes a mental health problem or
need? Or rather is the multiplicity of opinions "healthy", merely
reflecting an "open" environment?

These questions are beyond the scope of this investigation but are
certainly issues raised by the study. However, it is distressing that
such a finding has been observed and "mutually exclusive opinions" have

been obtained. The 1972 Drug Study made similar conclusions about

staff, corpsmembers, mental health dichotomies. Even

if this multiplicity of opinions is "healthy", it must certainly make

the administration of any coherent and consistent mental health policty

and procedure extremely difficult. What must be questioned is the role

which the National Health Office has in fostering, combating, continuing,

this multiplicity of opinions within the mental health domain.

The second major implication for Job Corps is the role of the

mental health consultant. Again, in reviewing the paucity of agreement

in the results of the inventory, one must question how this occurs and

what part the mental health consultant has in contributing to this. It

seems obvious that the mental health consultants viewed the inventory

as clinicians. Their lax criterions and preferences towards inclusion

of most items would seem appropriate for clinical situations. What

must be questioned is how appropriate is a "clinical" approach when

"non-clinical" conditions are present. The approach of the mental

health consultants seems to be one of removal of symptoms (birth con-

trol versus sex education) instead of assisting in the development of

programs which foster mental health. Given that the majority of corps-

members are typically "normal" adolescents, the use of a "clinical"

approach becomes suspect. Even if one assumes that a "clinical"

approach is appropriate, one would suspect that at least staff members

would be trained in this approach and share some of the ideas and

perceptions of the mental health consultants. However, this does not

seem to be the case. Again, the role of the mental health consultant

is beyond the scope of the present investigation. Given the quality

of the present results, it would seem that clarification and definition of the role of the mental health consultant is warranted.

CONCLUSIONS

The data support several conclusions. They are:

(1) Mental health consultants, center staff, and corpsmembers are in basic disagreement as to what constitutes a mental health need or problem for corpsmembers;

(2) That when these three groups do agree, it is only in regards to the corpsmembers' needs for privacy, personal safety, and financial security;

(3) The use of a Signal Detection model is applicable to the questionnaire process;

(4) The administration and management of the mental health program in Job Corps is (unnecessarily?) complicated by a lack of common definition of mental health needs and problems; and

(5) The role of the mental health consultant in Job Corps needs to be expanded beyond one which is primarily clinical in nature to one which (a) fosters healthy development in "normal" adolescents and (b) is more actively involved in training staff and corpsmembers in the recognition and identification of mental health needs and problems.

FUTURE RESEARCH

The most obvious extension of the present study is to administer the inventory at a second Job Corps Center in order to compare the results. Or alternatively, to administer the inventory at most of the

centers in one of the geographic administrative regions of Job Corps. Would corpsmembers still disagree with the mental health consultants? and each other? Would the staff from one center agree with the staff from the second center more than with the mental health consultants?

A second study could investigate whether medical discharges for psychological reasons occur at centers more or less frequently where there is basic disagreement among the mental health consultants, staff, and corpsmembers regarding the nature of mental health problems and needs than at those centers where the three groups are in general agreement.

SUMMARY

The purpose of the study was to develop a Needs Analysis Inventory which could identify the mental health needs and problems of students enrolled in the United States' Department of Labor's Job Corps program. It is assumed that this inventory can provide more accurate information to Job Corp's National Health Office than the current methods by which the data are presently collected.

The procedures used in the development and analysis of data were that of a Signal Detection Model. Categories of needs and problems were derived from the results of a preliminary questionnaire administered to mental health consultants to Job Corps and the corpsmembers at one Job Corps Center. Three sets of inventory items were then developed. The first set reflected the broad categories of mental health needs and problems. Additional inventory items were developed which did not reflect the categories of needs and problems (blanks) while the third

set of items were intentionally ambiguous. The final inventory was administered to mental health consultants, center staff, corpsmembers, and a comparison group of high school students (total N = 116).

Hit Rates, False Alarm Rates, d', d_e, β, Preference, and Accuracy were calculated for each group of respondents. On five of six categories of mental health needs and problems on the inventory, the mental health consultants, center staff, and corpsmembers did not agree as to what constitutes a mental health need or problem for corpsmembers. The multiplicity of opinions regarding the definition of mental health needs and problems in Job Corps is discussed as well as the administrative issues this raises for the National Health Office. Also, implications for the use of Signal Detection models in questionnaires (any by extension) the interview process are presented.

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APPENDIX A

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Dr. Don DuBois
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Room 6206
601 - D Street, N.W.
Washington, D.C.   20213

Dear Don,

Enclosed is the proposed schedule and budget for the Needs-
Analysis/Problem Identification Inventory for Job Corps.

I would like to reiterate the importance and utility of such
an inventory. Job Corps has traditionally relied on "casualty
figures" as determined by medical and disciplinary discharges
as a means of identifying problems and subsequently inferring
needs of corpsmembers. The inadequacies of this approach are
typified by the results of the Kleemeier and Moffat study (1980)
of the learning disabled in Job Corps. That learning disabled
corpsmembers exist is not surprising but that the average read-
ing level for the population tested was the equivelent of a
thrid-grade reading level was.

Third-grade reading levels of corpsmembers (at least at one
center) underscores the deficiencies of relying upon the medi-
cal/pathological model for problem identification and needs
analysis. The medical/pathological model chiefly relies on
the removal (medical/disciplinary discharges) of problems.
Given the population of adolscents serviced by Job Corps, the
utility of this model becomes suspect.

Signal Detection Theory provides an alternative model to the
traditional, pathological model currently utilized in Job Corps.
Although initially and primarily still a laboratory procedure,
Signal Detection models are increasingly being used in natural
enviroments. Swets, et al (1979) use of a Signal Detection
paradigm in a hospital setting is representative of the growing
acceptance of this procedure.

> (c.) Potentially, a group of black, high school drop-outs living in a foster home as wards of the State of Illinois, and
>
> (d.) a small (10-15) group of corpsmembers at the Cincinnati Job Corps Center.

5. Administer the inventory to approximately 50-75 corpsmembers and 25-40 staff members at the Cincinnati Job Corps Center during July, 1980.

6. (Ideally), administer the completed inventory at one additional Job Corps Center in August, 1980.

7. Final report filed in late September, early October 1980.

Points 4d., 5., and 6., will require that a consent form is signed by an individual acting in loco parentis for the corpsmembers. A suggested copy of the consent form is enclosed.

The pretesting of corpsmembers at the Cincinnati center (point 4d.) could be performed by a member of the counseling staff or the residential living staff. It is not important that I personally perform this.

Finally, testing the inventory at a second center (point 6.) could be performed in conjunction with a substance abuse training session.

I hope this addresses the major administrative concerns and I expect to here from you soon. Thanks again,

Sincerely,

Edward J. Wygonik

APPENDIX B

NEEDS ANALYSIS QUESTIONNAIRE

The following items refer to the successful Job Corps graduate. The results will be used to formulate items for a needs analysis inventory for Job Corps.

Please indicate which items you feel best describe the successful, competent Job Corps graduate.

Use:
M if the item refers only to the male corpsmembers;
F if the item refers only to the female corpsmembers;
B if the item refers to both male and female corpsmembers.

Check as many items as you think apply.

1. What is the average age of the successful Job Corps graduate?

    _____under 17   _____20

    _____17   _____21

    _____18   _____22

    _____19   _____over 22

2. What is the average length of stay of the successful Job Corps graduate at the Job Corps Center?

    _____0-3 months   _____9-12 months

    _____3-6 months   _____12-15 months

    _____6-9 months   _____15-18 months

                                     _____over 18 months

3. Which of the following best describe the successful Job Corps graduate at your center?

    _____adaptive   _____assertive

    _____relaxed   _____self-confident

    _____calm   _____capable

    _____good sense of humor   _____sensible

    _____insightful   _____integrated

_____sensitive   _____stable

_____mature   _____optimistic

_____warm   _____friendly

_____other (specify)_____

_____other (specify_____

4. In coping with stress, the successful Job Corps graduate used:

_____denial   _____rationalization

_____introjection   _____fantasy

_____withdrawal   _____intellectualization

_____repression   _____displacement

_____sublimation   _____identification

_____emotional insulation   _____projection

_____other (specify)_____

_____other (specify)_____

5. The successful corpsmember graduate's primary source of emotional
    support while at the Job Corps Center was:

_____none   _____family

_____extended family   _____friends

_____Resident Assistants   _____home community contacts

_____counseling staff   _____teachers

_____other center staff   _____religion

_____other corpsmembers   _____other corpsmembers' families

6. The successful corpsmember's marital status at graduation was:

_____single   _____divorce pending

_____married   _____divorced

_____separated   _____widowed

7. The number of dependents which the successful corpsmember had to support at the time of graduation from Job Corps was:

_____none   _____spouse and two children

_____spouse only   _____spouse and more than two children

_____spouse and one child   _____parents

                                   _____others

8. The relationships within the corpsmembers' family of origin seemed to be:

_____warm and caring   _____stable

_____supportive   _____disharmonious but functional

_____conflicted   _____dependable in crises

_____destructive   _____unable to assist corpsmember

_____nonsupportive   _____other_____

9. While at the Job Corps Center, the corpsmember's pattern of communication with others tended to be:

_____minimal   _____free and open

_____superficial   _____empathic and supportive

_____circumstantial   _____hostile

_____indirect   _____other_____

10. The successful corpsmember's attitude toward work was:

_____apprehensive   _____source of gratification

_____excited   _____no job gratification

_____workaholic   _____normally satisfying

_____other_____

11. Overall, the successful corpsmember's reaction to Job Corps was:

_____a good adjustment   _____culture shock

_____has benefited   _____conflicts with staff

_____satisfying   _____Job Corps was "last resort"

_____realistic   _____positive appreciation

_____separation anxiety   _____negative about termination

_____conflicts with other   _____overdependence on staff
     corpsmembers

_____other_____

12. The successful Job Corps graduate's scholastic achievement was:

_____excellent   _____unsatisfactory

_____satisfactory   _____failing

13. The successful corpsmember's emotional reactions to Job Corps included:

_____anger   _____undue anxiety

_____guilt   _____proud of accomplishments

_____depression   _____immobilized

_____challenging   _____pleased with self

_____grateful   _____realistic hopefulness

_____grief   _____appropriate anxiety

_____apathetic   _____other_____

14. The coping behaviors used by the successful corpsmember indicated that the corpsmember was:

_____was effectively handling stress

_____resourceful

_____adaptive

_____had some interpersonal problems

_____ineffectively handling stress

_____possessed adequate socialization skills

_____other _____

15. The successful corpsmember's understanding of his/her reason for being in Job Corps was:

_____adequate   _____poor

_____partial   _____needed time to comprehend

_____distorted   _____unable to comprehend

_____well-formulated   _____other _____

16. The successful Job Corps graduate was:

_____a group leader   _____actively withdrew from groups

_____did not join groups   _____a group member

_____passively withdrew from groups

17. The corpsmember's employment status at graduation was:

_____full-time

_____part-time

_____unemployed

_____other _____

18. The corpsmember's communication pattern seemed to indicate that the corpsmember was:

_____self-assured   _____clarified issues or problems

_____inquisitive   _____expressed needs

_____expressed feelings   _____acceptable comprehension

_____heard accurately   _____other _____

19. The corpsmember's relationships with others appeared to be:

_____warm and caring   _____mutually supportive

_____independent   _____disharmonious but functional

_____nonsupportive   _____distant and detached

_____self-sustaining   _____dependable

_____dependable in crises   _____able to meet others' needs

_____other_____

_____other_____

20. The successful Job Corps graduate's ability to solve problems was:

_____immobilized

_____needed time

_____solved routine problems

_____planned and functioned well even in crises

_____solved problems with help from others

_____planned unrealistically

_____unable to accept help from others

_____other_____

_____other_____

APPENDIX C

1. AT GRADUATION FROM JOB CORPS,
   CORPSMEMBERS SHOULD BE SINGLE
   OR NEVER MARRIED.
   _____ DEFINITELY A NEED
   _____ PROBABLY A NEED
   _____ COULD BE A NEED
   _____ POSSIBLY NOT A NEED
   _____ PROBABLY NOT A NEED
   _____ DEFINITELY NOT A NEED

2. SOME CORPSMEMBERS WILL OCCASSIONALLY
   DRINK BEER OR WINE OFF CAMPUS
   (ONCE OR TWICE A MONTH OR LESS).
   _____ DEFINITELY A PROBLEM
   _____ PROBABLY A PROBLEM
   _____ COULD BE A PROBLEM
   _____ POSSIBLY NOT A PROBLEM
   _____ PROBABLY NOT A PROBLEM
   _____ DEFINITELY NOT A PROBLEM

3. CORPSMEMBERS NEED EXPLICITE INFORMATION
   IN BIRTH CONTROL PROCEDURES.
   _____ PROBABLY NOT A NEED
   _____ POSSIBLY NOT A NEED
   _____ DEFINITELY A NEED
   _____ COULD BE A NEED
   _____ DEFINITELY NOT A NEED
   _____ PROBABLY A NEED

4. SOMETIMES CORPSMEMBERS THINK THEY SHOULD
   BE ALLOWED TO SMOKE MARIJUANA BECAUSE
   THERE IS NO DOCUMENTED PROOF THAT IT IS
   DANGEROUS.
   _____ PROBABLY NOT A PROBLEM
   _____ POSSIBLY NOT A PROBLEM
   _____ DEFINITELY A PROBLEM
   _____ COULD BE A PROBLEM
   _____ DEFINITELY NOT A PROBLEM
   _____ PROBABLY A PROBLEM

5. CORPSMEMBERS SHOULD BE AWARE OF THREE
   DIFFERENT MEANS OF BIRTH CONTROL AND
   THE RELATIVE EFFECTIVENESS OF EACH.
   _____ DEFINITELY NOT A NEED
   _____ PROBABLY NOT A NEED
   _____ POSSIBLE NOT A NEED
   _____ COULD BE A NEED
   _____ PROBABLY A NEED
   _____ DEFINITELY A NEED

6. CORPSMEMBERS WHO CAN "HANDLE THEIR
   LIQUOR" (DRINK WITHOUT GETTING DRUNK)
   SHOULD BE ALLOWED TO DRINK OFF CAMPUS.
   _____ PROBABLY A PROBLEM
   _____ POSSIBLY NOT A PROBLEM
   _____ DEFINITELY NOT A PROBLEM
   _____ DEFINITELY A PROBLEM
   _____ PROBABLY NOT A PROBLEM
   _____ COULD BE A PROBLEM

7. SOME CORPSMEMBERS SMOKE MARIJUANA ONLY
   BECAUSE THEIR FRIENDS DO.
   _____ DEFINITELY NOT A PROBLEM
   _____ PROBABLY NOT A PROBLEM
   _____ POSSIBLY NOT A PROBLEM
   _____ COULD BE A PROBLEM
   _____ PROBABLY A PROBLEM
   _____ DEFINITELY A PROBLEM

8. CORPSMEMBERS NEED TO DEVELOP A RELATION-
   SHIP WITH AN ADULT STAFF MEMBER IN ORDER
   TO HAVE A SOURCE OF ADULT SUPPORT WHILE
   THEY ARE AT THE CENTER.
   _____ PROBABLY A NEED
   _____ POSSIBLY NOT A NEED
   _____ DEFINITELY NOT A NEED
   _____ DEFINITELY A NEED
   _____ PROBABLY NOT A NEED
   _____ COULD BE A NEED

9. SOME CORPSMEMBERS WILL BRING BEER OR
   WINE ON CAMPUS EVEN THOUGH THEY KNOW
   IT IS AGAINST THE RULES.
   _____ COULD BE A PROBLEM
   _____ PROBABLY A PROBLEM
   _____ DEFINITELY NOT A PROBLEM
   _____ DEFINITELY A PROBLEM
   _____ PROBABLY NOT A PROBLEM
   _____ POSSIBLY NOT A PROBLEM

10. AT GRADUATION FROM JOB CORPS, IT IS
    IMPORTANT THAT A CORPS MEMBER BE RE-
    QUIRED TO FINANCIALLY SUPPORT HIMSELF
    OR HERSELF.
    _____ COULD BE A NEED
    _____ PROBABLY A NEED
    _____ DEFINITELY NOT A NEED
    _____ DEFINITELY A NEED
    _____ PROBABLY NOT A NEED
    _____ POSSIBLY NOT A NEED

11. CORPSMEMBERS SHOULD BE ABLE TO DEFINE STRESS INCLUDING THE PHYSIOLOGICAL AND PSYCHOLOGICAL ASPECTS OF STRESS.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

12. SOMETIMES, THREE OR FOUR CORPSMEMBERS WILL BRING A SIX PACK OF BEER OR BOTTLE OF WINE INTO THE DORM ON A SATURDAY AFTERNOON AND DRINK ALL OF IT.

_____ DEFINITELY A PROBLEM
_____ PROBABLY A PROBLEM
_____ COULD BE A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM

13. OFTEN, CORPSMEMBERS WILL DRINK BEER OR WINE EVERY FRIDAY AND SATURDAY NIGHT, OFF CAMPUS.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

14. FREQUENTLY A CORPSMEMBER WILL BEGIN TO USE MARIJUANA DAILY.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

15. INFORMATION REGARDING THE MEANS OF OBTAINING AT LEAST TWO DIFFERENT TYPES OF BIRTH CONTROL SHOULD ROUTINELY BE MADE AVAILABLE TO ALL CORPSMEMBERS.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

16. SINCE MOST RULES ARE "MADE TO BE BROKEN" IT IS NOT IMPORTANT THAT CORPSMEMBERS FOLLOW THEM.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

17. CORPSMEMBERS SHOULD LIKE THEIR SCHOOL WORK.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

18. ONCE IN AWHILE A CORPSMEMBER WILL SELL MARIJUANA TO HIS FRIENDS IN ORDER TO MAKE MONEY.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

19. SOME CORPSMEMBERS WILL DRINK HARD LIQUOR (BOURBON, GIN, VODKA, ETC.) EVERY FRIDAY AND SATURDAY NIGHT, OFF CAMPUS.

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

20. ONCE OR TWICE A MONTH A CORPSMEMBER MIGHT SMOKE MARIJUANA.

_____ DEFINITELY A PROBLEM
_____ PROBABLY A PROBLEM
_____ COULD BE A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM

21. A CORPSMEMBER SHOULD BE TAUGHT TO VIEW
OTHER CORPSMEMBERS AS A PRIMARY SOURCE
OF SUPPORT WHILE THEY ARE AT THE CENTER.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

22. CORPSMEMBERS WILL OFTEN SMOKE MARIJUANA
OFF CAMPUS AND ONLY ON WEEKENDS.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM ·
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

23. IT IS NOT NECESSARY FOR CORPSMEMBERS
TO DEMONSTRATE COMPETENCY IN THEIR
SCHOOL WORK.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

24. IF A RULE "GOES AGAINST" A CORPSMEMBER'S
PRINCIPLES, THAT CORPSMEMBER SHOULD NOT
BE MADE TO FOLLOW THAT RULE.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

25. THREE OR FOUR CORPSMEMBERS BRING A
FIFTH OF "HARD LIQUOR" (BOURBON, GIN,
VODKA, ETC.) INTO THE DORM ON A SATUR-
DAY AFTERNOON AND PROCEED TO DRINK THE
ENTIRE BOTTLE.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

26. IN ORDER FOR A CORPSMEMBER TO GET THE
MOST OUT OF JOB CORPS, IT IS IMPORTANT
THAT THE CORPSMEMBER FOLLOW ALL THE
RULES OF THE CENTER.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

27. SOME CORPSMEMBERS WILL GIVE MARIJUANA
TO OTHER CORPSMEMBERS.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

28. CORPSMEMBERS WHO ARE OF "LEGAL AGE"
SHOULD BE ALLOWED TO DRINK OFF CAMPUS.

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

29. SOME CORPSMEMBERS WILL OCCASIONALLY
DRINK "HARD LIQUOR" (BOURBON, GIN,
VODKA, ETC.) OFF CAMPUS, ONCE OR TWICE
A MONTH OR LESS.

_____ DEFINITELY A PROBLEM
_____ PROBABLY A PROBLEM
_____ COULD BE A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM

30. CORPSMEMBERS NEED INFORMATION REGARDING
THE KINDS OF STRESS WHICH THEY WILL
UNDERGO WHILE AT THE CENTER

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

31. IT IS IMPORTANT THAT CORPSMEMBERS ARE
ABLE TO DETECT PROGRESS IN THEIR
VOCATIONAL INTERESTS.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

32. CORPSMEMBERS SHOULD BE ABLE TO OUTLINE
THE BASIC STEPS WHICH THEY USE IN ORDER
TO ACHIEVE THE MAJOR GOALS WHICH THEY
HAVE SET FOR THEMSELVES.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

33. CORPSMEMBERS SHOULD BE ABLE TO IDENTIFY
HOW THEY ACT WHEN THEY ARE UNDER STRESS.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

34. CORPSMEMBERS MUST LEARN WHICH RULES OF
THE CENTER CAN BE IGNORED AND WHICH
RULES MUST ALWAYS BE FOLLOWED.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

35. CORPSMEMBERS SHOULD BE ABLE TO STATE
AT LEAST TWO DIFFERENT WAYS OF DEALING
WITH STRESSFUL SITUATIONS.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

36. IF A CORPSMEMBER IS DOING WELL ACADEM-
ICALLY AND VOCATIONALLY, IT IS NOT
IMPORTANT THAT HE OR SHE FOLLOW THE
RULES OF THE CENTER.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

37. CORPSMEMBERS MUST LEARN TO COOPERATE
WITH PEOPLE WHOSE IDEAS ARE GREATLY
DIFFERENT FROM THERE OWN.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

38. CORPSMEMBERS SHOULD BE GIVEN THE
OPPORTUNITY TO LEAD OTHERS DURING
SOME PART OF THEIR CENTER LIFE.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

39. IT IS PARTICULARY IMPORTANT THAT NEW
CORPSMEMBERS COMPLETELY FOLLOW ALL THE
CENTER RULES AND REGULATIONS.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

40. CORPSMEMBERS SHOULD BE ABLE TO IDENTIFY
A JOB OR SKILL WHICH THEY WILL FIND AS
PERSONALLY SATISFYING.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

41. SOMETIMES A CORPSMEMBER WILL SELL
MARIJUANA TO ANOTHER CORPSMEMBER IN
ORDER TO "COVER THE COST" OF BUYING IT.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

42. CORPSMEMBERS SHOULD BE ABLE TO STATE
THE THINGS AND SITUATIONS WHICH THEY
FIND AS STRESSFUL.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

43. CORPSMEMBERS SHOULD BE ABLE TO STATE AT
LEAST TWO DIFFERENT PROCEDURES FOR
IDENTIFYING PROBLEMS.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

44. WEEKLY SESSIONS WITH MEMBERS OF THE
COUNSELING STAFF ARE NECESSARY FOR NEW
CORPSMEMBERS DURING THEIR FIRST THREE
MONTHS AT THE CENTER.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

45. TURNOVER OF CENTER STAFF HELPS CORPS-
MEMBERS TO LEARN TO LIVE IN THE "REAL
WORLD."

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

46. CORPSMEMBERS DISAPPOINTMENTS WITH CENTER
LIFE USUALLY TAKES CARE OF ITSELF IN
TIME.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

47. SOMETIMES CORPSMEMBERS WILL PURPOSELY
DESTROY CENTER PROPERTY "FOR THE FUN
OF IT."

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

48. CORPSMEMBERS NEED ASSERTIVENESS TRAINING.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

49. CORPSMEMBERS SHOULD KNOW AT LEAST TWO
DIFFERENT WAYS OF IDENTIFYING PROBLEMS.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

50. CORPSMEMBERS NEED TIME TO BE ALONE.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

51. ALTHOUGH OFTEN SEXUALY ACTIVE, MANY CORPSMEMBERS STILL HAVE ALOT TO LEARN ABOUT PERSONAL RELATIONSHIPS.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

52. CORPSMEMBERS SHOULD BE TAUGHT HOW-TO-MEMORIZE IN ORDER TO IMPROVE THEIR STUDY HABITS.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

53. SOMETIMES A CORPSMEMBER WILL JUST FEEL WORTHLESS.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

54. FREQUENTLY A CORPSMEMBER FEELS THAT OTHER CORPSMEMBERS ARE OUT-TO-GET-HIM OR HER.

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

55. CORPSMEMBERS SHOULD BE ABLE TO SPECIFY SPECIFIC GOALS WHICH THEY HOPE TO ACHIEVE WHILE THEY ARE AT THE JOB CORPS CENTER.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

56. IF A CORPSMEMBER IS DOING WELL IN A CLASS, THEN HE OR SHE SHOULD NOT HAVE TO GO TO THAT CLASS REGULARLY.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

57. CORPSMEMBERS' EXPECTATIONS OF CENTER LIFE SHOULD CONFORM WITH THE ACTUAL CONDITIONS OF CENTER LIFE.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

58. CENTER STAFF TURNOVER EFFECTS CORPS-MEMBERS.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

59. IT IS PARTICULARY IMPORTANT FOR NEW CORPSMEMBERS TO COMPLETELY FOLLOW ALL THE CENTER RULES AND REGULATIONS.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

60. SOMETIMES WHEN CORPSMEMBERS ARE "HORSING AROUND" THEY WILL DAMAGE OR BREAK CENTER PROPERTY.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

61. FREQUENTLY CORPSMEMBERS ARE AFRAID TO
    "SAY NO" TO A FRIEND BECAUSE THEY DO
    NOT WANT TO LOSE THAT FRIENDSHIP.

    _____ DEFINITELY A PROBLEM
    _____ PROBABLY A PROBLEM
    _____ COULD BE A PROBLEM
    _____ POSSIBLY NOT A PROBLEM
    _____ PROBABLY NOT A PROBLEM
    _____ DEFINITELY NOT A PROBLEM

62. CORPSMEMBERS SHOULD NOT HAVE TO
    WORRY ABOUT THE SAFETY OF THEIR
    PERSONAL BELONGINGS.

    _____ PROBABLY NOT A NEED
    _____ POSSIBLY NOT A NEED
    _____ DEFINITELY A NEED
    _____ COULD BE A NEED
    _____ DEFINITELY NOT A NEED
    _____ PROBABLY A NEED

63. IF TWO CORPSMEMBERS WANT, THEY SHOULD
    BE ALLOWED TO ENGAGE IN SEXUAL RELATIONS.

    _____ PROBABLY A NEED
    _____ POSSIBLY NOT A NEED
    _____ DEFINITELY NOT A NEED
    _____ DEFINITELY A NEED
    _____ PROBABLY NOT A NEED
    _____ COULD BE A NEED

64. IT IS IMPORTANT THAT CORPSMEMBERS ARE
    PROUD OF THEIR SCHOLASTIC ABILITIES.

    _____ COULD BE A NEED
    _____ PROBABLY A NEED
    _____ DEFINITELY NOT A NEED
    _____ DEFINITELY A NEED
    _____ PROBABLY NOT A NEED
    _____ POSSIBLY NOT A NEED

65. CORPSMEMBERS SHOULD BE ABLE TO RECOG-
    NIZE WHEN THEY ARE DEPRESSED.

    _____ PROBABLY A NEED
    _____ POSSIBLY NOT A NEED
    _____ DEFINITELY NOT A NEED
    _____ DEFINITELY A NEED
    _____ PROBABLY NOT A NEED
    _____ COULD BE A NEED

66. SOME CORPSMEMBERS "HEAR VOICES" WHEN
    NO ONE IS TALKING.

    _____ DEFINITELY NOT A PROBLEM
    _____ PROBABLY NOT A PROBLEM
    _____ POSSIBLY NOT A PROBLEM
    _____ COULD BE A PROBLEM
    _____ PROBABLY A PROBLEM
    _____ DEFINITELY A PROBLEM

67. IT IS IMPORTANT THAT CORPSMEMBERS ARE
    PROUD OF THEIR WORK.

    _____ COULD BE A NEED
    _____ PROBABLY A NEED
    _____ DEFINITELY NOT A NEED
    _____ DEFINITELY A NEED
    _____ PROBABLY NOT A NEED
    _____ POSSIBLY NOT A NEED

68. CORPSMEMBERS SHOULD BE TAUGHT HOW TO
    MAKE FRIENDS.

    _____ DEFINITELY A NEED
    _____ PROBABLY A NEED
    _____ COULD BE A NEED
    _____ POSSIBLY NOT A NEED
    _____ PROBABLY NOT A NEED
    _____ DEFINITELY NOT A NEED

69. IN ORDER TO GET THE MOST OUT OF THEIR
    TRAINING, CORPSMEMBERS SHOULD STAY AT
    THE CENTER FOR AT LEAST SIX MONTHS.

    _____ PROBABLY NOT A NEED
    _____ POSSIBLY NOT A NEED
    _____ DEFINITELY A NEED
    _____ COULD BE A NEED
    _____ DEFINITELY NOT A NEED
    _____ PROBABLY A NEED

70. CORPSMEMBERS SHOULD BE TAUGHT HOW TO
    END FRIENDSHIPS WITH PEOPLE WHOM THEY
    NO LONGER WANT TO BE FRIENDS.

    _____ DEFINITELY A NEED
    _____ PROBABLY A NEED
    _____ COULD BE A NEED
    _____ POSSIBLY NOT A NEED
    _____ PROBABLY NOT A NEED
    _____ DEFINITELY NOT A NEED

71. CORPSMEMBERS SHOULD BE TAUGHT TO EXPECT PERIODS OF DEPRESSION WHILE THEY ARE AT THE CENTER.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

72. CORPSMEMBERS SHOULD BE ABLE TO DEMONSTRATE AT LEAST TWO DIFFERENT WAYS OF DEALING WITH STRESSFUL SITUATIONS.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

73. CORPSMEMBERS OFTEN HAVE DIFFICULTY KNOWING WHAT THEY SHOULD STUDY, FOR A TEST.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

74. CORPSMEMBERS NEED EXPLICITE INFORMATION AND INSTRUCTIONS IN THE CULTURAL NORMS OF HUMAN SEXUALITY.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

75. CORPSMEMBERS PERSONAL BELONGINGS SHOULD BE KEPT IN A LOCKED CABINET.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

76. OFTEN CORPSMEMBERS AGREE TO DO SOMETHING BECAUSE ALL THEIR FRIENDS ARE DOING IT.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

77. IF A CORPSMEMBER IS WRONGLY ACCUSED OF SOMETHING, HE OR SHE CAN FEEL JUSTIFIED IN DESTROYING CENTER PROPERTY.

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

78. THE QUALITY OF THE CENTER STAFF IS OFTEN NOT APPRECIATED OR NOTICED BY THE CORPSMEMBERS.

_____ DEFINITELY A PROBLEM
_____ PROBABLY A PROBLEM
_____ COULD BE A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM

79. CORPSMEMBERS' EXPECTATIONS OF THE CENTER'S EQUIPMENT AND FACILITIES SHOULD CONFORM WITH THE ACTUAL EQUIPMENT AND FACILITIES AT THE CENTER.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

80. OFTEN CORPSMEMBERS WRITE GRAFFITTI ON CENTER WALLS.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

81. CORPSMEMBERS SHOULD BE ABLE TO STATE THE DIFFERENCE BETWEEN BEING ASSERTIVE AND BEING AGGRESSIVE.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

82. CORPSMEMBERS NEED A PLACE WHICH THEY CAN CONSIDER AS THEIR OWN.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

83. CORPSMEMBERS NEED EXPLICITE INSTRUCTIONS IN THE BIOLOGY OF HUMAN SEXUALITY.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

84. DURING THE FIRST MONTH AT A CENTER, CORPSMEMBERS OFTEN QUESTION IF THEY HAVE MADE A CORRECT DECISION BY JOINING JOBS CORPS.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

85. SOME CORPSMEMBERS "SEE PEOPLE" WHEN THERE IS NO ONE THERE.

_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ COULD BE A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY A PROBLEM

86. WHEN A CORPSMEMBER "ACTS CRAZY" (HEARS VOICES, ETC.) IT IS OFTEN UPSETTING TO HIS FRIENDS.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

87. A CORPSMEMBER SHOULD KNOW HOW TO SAY "NO" TO A FRIEND WITHOUT LOSING THAT PERSON'S FRIENDSHIP.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

88. IN ORDER TO GET THE MOST FROM THEIR TRAINING, CORPSMEMBERS SHOULD STAY AT A CENTER FOR AT LEAST ONE YEAR.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

89. CORPSMEMBERS NEED TO ATTEND ALL CLASSES.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

90. CORPSMEMBERS NEED TO KNOW WHY SOME OF THEIR FRIENDS "HEAR VOICES" OR "SEE THINGS" WHICH ARE NOT THERE.

_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY A NEED
_____ COULD BE A NEED
_____ DEFINITELY NOT A NEED
_____ PROBABLY A NEED

91. A CORPSMEMBER WILL SOMETIMES GET DEPRESSED AND NOT KNOW WHY.

_____ DEFINITELY A PROBLEM
_____ PROBABLY A PROBLEM
_____ COULD BE A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM

92. PRIVATE AREAS SHOULD BE PROVIDED FOR CORPSMEMBERS TO TALK WITH CENTER STAFF ABOUT PERSONAL PROBLEMS.

_____ DEFINITELY A NEED
_____ PROBABLY A NEED
_____ COULD BE A NEED
_____ POSSIBLY NOT A NEED
_____ PROBABLY NOT A NEED
_____ DEFINITELY NOT A NEED

93. A CORPSMEMBER WILL OFTEN NOT KNOW HOW TO STAND-UP FOR HIMSELF.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

94. BEFORE THEY ARRIVE AT THE CENTER, CORPSMEMBERS SHOULD BE TOLD HOW MUCH THEY WILL BE ACTUALLY PAID WHILE THEY ARE AT THE CENTER.

_____ DEFINITELY NOT A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLE NOT A NEED
_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY A NEED

95. SOME CORPSMEMBERS TAKE A NAP DAILY BEFORE SUPPER.

_____ DEFINITELY NOT A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY A PROBLEM

96. IF A CORPSMEMBER "ACTS CRAZY" (HEARS VOICES, ETC.) HIS/HER FRIENDS AND OTHER CORPSMEMBERS FROM THE DORM SHOULD BE GIVEN THE OPPORTUNITY TO TALK ABOUT IT.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

97. EVEN THOUGH IT IS DIFFICULT, CORPS-MEMBERS MUST LEARN HOW TO "SAY NO" TO THEIR FRIENDS.

_____ PROBABLY A NEED
_____ POSSIBLY NOT A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ COULD BE A NEED

98. SOME CORPSMEMBERS SEXUAL ORIENTATION IS HOMOSEXUALITY.

_____ PROBABLY A PROBLEM
_____ POSSIBLY NOT A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ COULD BE A PROBLEM

99. INFORMATION REGARDING HOW TO OBTAIN ABORTIONS SHOULD BE PROVIDED TO ANY CORPSMEMBER.

_____ COULD BE A NEED
_____ PROBABLY A NEED
_____ DEFINITELY NOT A NEED
_____ DEFINITELY A NEED
_____ PROBABLY NOT A NEED
_____ POSSIBLY NOT A NEED

100. A CORPSMEMBER MIGHT THINK THAT THE ONLY WAY TO GET WHAT HE WANTS IS BY YELLING AND FIGHTING.

_____ COULD BE A PROBLEM
_____ PROBABLY A PROBLEM
_____ DEFINITELY NOT A PROBLEM
_____ DEFINITELY A PROBLEM
_____ PROBABLY NOT A PROBLEM
_____ POSSIBLY NOT A PROBLEM

APPENDIX D

APPENDIX

Responses to the inventory were analyzed using a traditional, inferential statistical model. Statistics included in this model were:

(1) Pearson Chi-Square for Independence

(2) Contingency Coefficient

(3) Lambda Asymmetrical

(4) Lambda Symmetrical

(5) Kendall's Tau B

(6) Pearson's R

The Statistical Package for the Social Sciences Sub-routine Crosstabs was utilized in the analysis. The analysis utilized the responses to each inventory item by status of the respondent (Mental Health Consultant, Corpsmembers, Staff, Control). Total N was 116.

Inventory Item Number	Pearson's x^2 15df sig.		Contingency Coefficient	Lambda Asymmetrical Status Depend	Lambda Asymmetrical Item# Depend	Symmetrical	Kendall's Tau B	Kendall's Tau Sig	Pearsons R R	Pearsons R Sig.
1	22.49	.09	.40	.10	.03	.06	.15	.03	.16	.04
2	23.16	.08	.41	.05	.04	.04	.07	.17	.06	.27
3	36.25	.01	.49	.09	.00	.04	.08	.14	.05	.30
4	31.05	.ol	.45	.07	.04	.05	.15	.03	.12	.11
5	23.08	.08	.41	.00	.00	.00	.15	.03	.06	.23
6	24.80	.05	.42	.09	.09	.09	.18	.01	.13	.07
7	28.31	.02	.44	.09	.09	.09	.26	.01	.28	.01
8	28.66	.02	.45	.05	.12	..10	.15	.03	.16	.04
9	21.15	.13	.39	.07	.00	.04	.25	.01	.18	.02
10	17.71	.28	.36	.07	.06	.02	.03	.35	.02	.40
11	13.81	.54	.32	.00	.04	.02	.03	.35	.02	.40
12	8.76	.88	.27	.02	.05	.04	.07	.18	.03	.37
13	27.42	.03	.43	.04	.00	.02	.08	.16	.03	.37
14	16.28	.36	.35	.02	.00	.01	.19	.01	.15	.05
15	24.91	.o5	.42	.00	.06	.03	.01	.44	.05	.28
16	22.33	.09	.40	.00	.02	.01	.07	.19	.03	.38
17	18.30	.25	.37	.02	.00	.01	.19	.01	.25	.01
18	19.78	.18	.38	.00	.02	.01	.07	.19	.01	.48
19	14.40	.49	.33	.05	.06	..06	.11	.07	.07	.20
20	24.21	.06	.42	.09	.07	.08	.01	.45	.02	.44
21	27.74	.02	.43	.09	.05	.06	.17	.02	.19	.02
22	36.41	.01	.48	.16	.07	.11	.16	.03	.06	.27
23	39.98	.01	.50	.20	.00	.09	.13	.06	.03	.36
24	15.57	.41	.34	.02	.06	.04	.08	.16	.06	.25
25	25.74	.04	.43	.11	.00	.05	.22	.01	.15	.05

Inventory Item Number	Pearson's x^2 15df	sig	Contingency Coefficient	Lambda Assymmetrical Status Depend	Item # Depend	Symmetrical	Kendall's Tau B	sig	Pearsons R R	sig
26	20.52	.15	.39	.00	.02	.01	.17	.02	.17	.03
27	24.19	.06	.42	.05	.00	.02	.18	.01	.13	.07
28	26.86	.03	.43	.02	.10	.06	.16	.02	.17	.04
29	18.98	.21	.37	.00	.08	.05	.05	.23	.12	.09
30	15.62	.40	.35	.00	.00	.00	.17	.02	.14	.07
31	37.86	.01	.50	.05	.08	.06	.13	.06	.09	.17
32	26.65	.03	.43	.00	.04	.02	.04	.32	.04	.34
33.	21.95	.11	.40	.02	.03	.03	.06	.24	.01	.48
34	21.31	.13	.39	.05	.00	.02	.01	.44	.05	.27
35	26.86	.03	.43	.00	.08	.05	.04	.30	.01	.48
36	18.28	.25	.37	.04	.01	.02	.04	.33	.03	.36
37	25.40	.05	.42	.00	.05	.03	.02	.38	.09	.15
38	24.49	.06	.42	.13	.17	.15	.17	.02	.13	.09
39	20.94	.14	.39	.05	.02	.03	.15	.04	.09	.16
40	12.45	.65	.31	.00	.00	.00	.07	.21	.01	.46
41	18.38	.24	.37	.00	.04	.03	.11	.08	.09	.15
42	21.36	.13	.39	.05	.01	.03	.13	.05	.09	.18
43	18.03	.26	.37	.00	.04	.03	.07	.19	.03	.36
44	21.13	.13	.39	.00	.05	.03	.10	.10	.09	.18
45	34.16	.01	.48	.14	.05	.09	.27	.01	.20	.02
46	29.74	.02	.45	.05	.05	.05	.03	.33	.01	.45
47	19.27	.20	.38	.02	.00	.01	.18	.01	.19	.03
48	13.41	.57	.32	.00	.00	.00	.01	.46	.01	.45
49	16.58	.34	.35	.04	.00	.02	.10	.10	.07	.22
50	14.21	.51	.33	.00	.03	.02	.05	.28	.06	.25

Inventory Item Number	Pearson's x^2 15df	sig.	Contingency Coefficient	Lambda Assymmetrical Status Depend	Item # Depend	Symmetrical	Kendall's Tau B	sig	Pearson's R R	sig.
51	16.36	.36	.35	.00	.00	.00	.14	.o4	.07	.24
52	14.25	.51	.33	.00	.05	.03	.08	.17	.07	.23
53	19.91	.18	.38	.04	.00	.02	.08	.17	.12	.09
54	43.34	.01	.52	.00	.10	.06	.19	.01	.15	.05
55	21.68	.12	.40	.00	.00	.00	.11	.09	.10	.12
56	17.05	.31	.36	.07	.08	.08	.02	.41	.01	.43
57	26.99	.03	.43	.07	.06	.07	.08	.15	.06	.27
58	18.13	.26	.37	.00	.03	.02	.07	.18	.01	.49
59	25.20	.05	.42	.00	.00	.00	.11	.09	.08	.19
60	29.76	.01	.45	.02	.07	.05	.06	.24	.04	.34
61	20.33	.16	.39	.00	.09	.05	.04	.30	.07	.20
62	12.09	.67	.31	.00	.00	.00	.06	.24	.09	.16
63	31.05	.01	.46	.05	.11	.09	.o8	.16	.01	.47
64	29.78	.01	.45	.03	.07	.05	.03	.34	.10	.12
65	13.75	.54	.32	.00	.00	.00	.09	.12	.15	.05
66	22.18	.10	.40	.00	.07	.04	.12	.06	.10	.14
67	23.91	.07	.41	.00	.00	.00	.14	.04	.06	.25
68	9.43	.85	.27	.00	.00	.00	.05	.26	.03	.36
69	31.26	.01	.46	.04	.11	.07	.06	.20	.01	.46
70	10.95	.76	.29	.00	.05	.03	.01	.47	.01	.42
71	15.18	.43	.34	.04	.06	.05	.03	.34	.10	.13
72	11.25	.73	.28	.00	.01	.00	.01	.42	.02	.42
73	25.77	.04	.43	.11	.09	.09	.10	.08	.06	.24
74	16.70	.33	.35	.02	.09	.06	.07	.19	.03	.37
75	12.01	.67	.31	.00	.00	.00	.07	.19	.09	.15

Inventory Item Number	Pearson's x^2 15df	sig	Contingency Coefficient	Lambda Asymmetrical Status Depend	Item # Depend	Symmetrical	Kendall's Tau B	sig	Pearson's R R	sig
76	17.31	.30	.36	.00	.03	.02	.12	.07	.13	.08
77	24.18	.06	.41	.04	.13	.09	.21	.01	.20	.01
78	8.84	.89	.27	.00	.01	.01	.05	.27	.07	.23
79	21.56	.12	.40	.00	.01	.01	.05	.25	.05	.28
80	17.14	.31	.36	.04	.07	.06	.06	.21	.14	.16
81	14.23	.51	.33	.00	.03	.02	.01	.47	.02	.43
82	12.57	.64	.31	.00	.00	.00	.11	.09	.12	.10
83	14.23	.51	.33	.00	.03	.02	.04	.30	.01	.45
84	9.94	.82	.28	.00	.00	.00	.03	.36	.04	.33
85	20.05	.17	.38	.02	.05	.04	.10	.10	.10	.14
86	13.13	.59	.22	.00	.00	.00	.08	.15	.09	.17
87	16.12	.37	.35	.00	.00	.00	.16	.02	.10	.16
88	25.08	.05	.42	.07	.08	.06	.10	.10	.17	.04
89	26.73	.03	.43	.00	.06	.03	.01	.43	.01	.45
90	16.29	.36	.35	.00	.03	.02	.17	.02	.18	.02
91	34.94	.01	.48	.04	.10	.07	.18	.01	.24	.01
92	16.00	.38	.35	.02	.00	.01	.04	.31	.01	.50
93	19.99	.17	.38	.02	.07	.05	.10	.11	.08	.20
94	19.26	.20	.38	.00	.00	.00	.09	.14	.03	.37
95	16.39	.36	.35	.00	.11	.07	.02	.38	.06	.25
96	14.21	.51	.33	.04	.04	.04	.14	.04	.14	.06
97	19.96	.17	.38	.00	.02	.01	.14	.04	.16	.04
98	21.80	.11	.40	.02	.09	.06	.01	.43	.07	.22
99	12.65	.63	.31	.00	.08	.04	.06	.22	.05	.29
100	17.31	.31	.36	.00	.02	.01	.05	.29	.03	.38

APPROVAL SHEET

The dissertation submitted by Edward J. Wygonik has been read and approved by the following committee:

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

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

April 23, 1981   _Judy Mayo Ph.D_
Date   Director's Signature