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# An Analysis of Substance Abusers' Field Dependence & Time Spent in Rehabilitative Therapy

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Robert Bruce

1992

An Analysis of Substance Abusers' Field Dependence  
And Time Spent in Rehabilitative Therapy

A Specialist Project  
Presented To  
The Faculty of the Department of  
Counselor Education  
Western Kentucky University  
Bowling Green, Kentucky

In Partial Fulfillment  
of the Requirements for the Degree  
Educational Specialist

by

Robert Bruce Fane

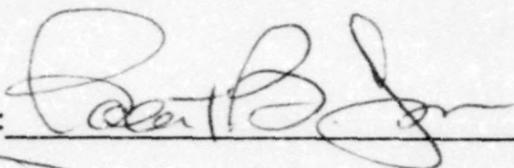
December, 1992

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An Analysis of Substance Abusers' Field Dependence  
And Time Spent in Rehabilitative Therapy

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An Analysis of Substance Abusers' Field Dependence  
And Time in Rehabilitative Therapy

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December 1992

66 Pages

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This project was designed to determine if significant differences existed between the level of psychological differentiation, as determined by the Group Embedded Figures Test (GEFT), of individuals entering a treatment center for chemical dependency and the length of stay at the facility.

The subjects consisted of 43 white males who were seeking treatment for addiction to mood altering chemicals at a regional treatment facility in Bowling Green, Kentucky. Each subject was interviewed to collect pertinent background information pertaining to past substance abuse and was evaluated to determine psychological differentiation, utilizing the GEFT.

It was determined through an analysis of variance that significant differences did not exist between individuals classified as Field Dependent or Field Independent, relative to length of stay. A post hoc analysis determined that significant differences did exist between those individuals who were categorized as Unclassified (not consistently Field

Dependent or consistently Field Independent) and those categorized as Field Dependent and Field Independent.

## CHAPTER I

### Introduction and Statement of Problem

#### Introduction

Hester and Miller (1989) proposed three myths which permeate the attitudes of clinicians and clients alike regarding the treatment of chemical dependency. These myths are: nothing works, there is one particular approach which is superior to others, and all treatment approaches work about equally well. Hester and Miller (1989) further stated,

"...no one approach stands out from all the rest...the reason for hope and optimism in the alcoholism field is not the presence of a single outstandingly effective approach but rather an array of promising and effective alternatives" (p. 3).

There are a number of effective approaches to the treatment of chemical dependency and one of the perplexing difficulties associated with treatment is not the modality of treatment but rather the difficulty of motivating the client to seek treatment and then complete the process. If these initial goals are not attained, in most cases, the chemically dependent persons will continue to abuse chemicals.

The Reservoir Hill Care Centre in Bowling Green, Kentucky, is a treatment facility dedicated to the treatment

of chemical dependency. In a study conducted at this facility it was observed that of the more than 1200 patients who were admitted, 22% left the facility prior to completing treatment and against medical advice. Of the persons who left prior to the completion of treatment, and who could be contacted for purposes of research (n=455), 100% returned to the use and abuse of mood-altering chemicals within a three month period. The reasons that these patients left prior to completing treatment are as varied as the individuals themselves. This research project was designed to view several variables which correlate to the premature discharges. To this end, the project utilized an evaluation tool designed to detect the level of psychological differentiation that an individual possesses, and the degree to which differentiation correlates with length of stay.

The concept of psychological differentiation is a facet of psychology that is made up of five components which include: "perceptual field dependence/independence, global versus analytical cognitive functioning, global versus articulated body concept, sense of separate identity, and the availability of structured controls over impulse expression with the use of specialized defenses for dealing with problem situations" (Shelly-Mcintyre & Lapidus, 1989, p.455). There have been 19 cognitive styles identified and field dependence is the most intensely studied of them all (Melancon, 1989).

Research consistently shows that there is a relationship between field dependence and how a person relates to other people. A field dependent person is more likely to remember faces, to demonstrate a stronger interest in others, to exhibit a stronger interpersonal nature and the partiality to be closer to others in proximity, and to relate to others better than the field independent person (McRae & Young, 1990). A field independent person is more likely to prefer autonomy and to possess a stronger degree of analytical skills.

#### Statement of Problem

There currently exists a need to identify persons entering chemical dependency units for indicators which might lead to their premature discharge, even against the advice of the admitting physician or the clinical staff. The problems created by this situation include: the refusal of third parties to pay for treatment, the subsequent billing to the individual and, most dangerously, the individual's abandonment of treatment and continued use. Based on the personality characteristics previously discussed, it may be observed that a field dependent person will be more likely to conform to the group therapy process and will seek others who will be supportive. Conversely, it may be observed that a field independent person will utilize only the detoxification phase and, acting autonomously, will leave prior to completion of treatment.

The objective of this research project was to determine the relationship between field dependence and the retention of patients in the above mentioned treatment facility for substance abusers. Dropout rates are exceptionally high and if there is a means of determining the individuals that may leave prior to completion of treatment, it may be reasonable to assume that through evaluation and intervention, retention may increase. Specifically stated, this study will utilize the Group Embedded Figures Test to determine the relationship between the cognitive perceptual personality characteristic of field dependence among white male chemical dependents entering treatment and the retention of those males for completion of the treatment process.

#### Assumptions

1. The patients who entered treatment during the evaluation period demonstrated a desire to improve themselves from both a physiological and psychological perspective.
2. Admission trends were historically consistent in that there was a significant number of subjects to evaluate in a reasonable time frame.
3. Extraneous variables such as economy and current political situations did not skew results.
4. The chemically dependent persons who were evaluated presented a diverse population so that a valid and reliable

conclusion was drawn.

5. Chemical dependency encompasses a wide variety of drugs and includes alcohol. For the purposes of this study, and based on research, patients who were addicted to drugs (i.e., dry chemicals) and those who were addicted to alcohol (i.e., wet chemicals) were not separated as they tend to score similarly on tests of field dependence (Kalliopuska, 1982).

#### Definition of Terms

Against medical advice is the phrase that is used to identify those patients who leave a hospital without the consent or approval of the attending physician.

Body concept is the systematic impression an individual has of his body, cognitive and affective, conscious and unconscious (Witken, Oltman, Raskin & Karp, 1971).

Chemical Dependency is the use of mood altering chemicals to the extent that problems are created in one's life and continued use in spite of the harmful consequences.

Field Dependence is the tendency of an individual to perceive stimuli through external frames of reference.

Field Independence is the tendency of an individual to perceive stimulus through internal frames of reference.

Differentiation refers to the complexity of structure of a psychological system (Witken et al., 1971).

Group Embedded Figures Test (GEFT) is an adaption of the Embedded Figures Test which improves the efficiency of

testing large groups of individuals.

Psychopathology generally refers to a disturbance in personality (Witken et al., 1971) .

#### Research Hypothesis

H01. There will be no significant difference in the number of days required to complete chemical dependency treatment between the patients identified as field dependent and those identified as field independent, as determined by the Group Embedded Figures Test.

#### Limitations of the Study

1. This study was limited to evaluation of white male patients ages eighteen and up only. With this selection bias the ability of the study to generalize was limited. The number of white male admissions is greater than all other admissions combined.

2. The small sample size (n=43) limited the power of this study in terms of extrapolating data or for purposes of comparison.

3. The sampling procedure did not permit for randomization as patients were evaluated during a specific time frame.

4. The responses received on the GEFT were of relative importance only during the period from the start of the testing period until a sample of 43 was attained and to that section of the patients who were sampled.

5. This study grouped substance abusers as a general

group and tested them as such. Those patients who abused dry chemicals were evaluated with those using wet chemicals and with those who used both. The groups tend to test similarly on tests of field dependence.

## CHAPTER II

### Review of Selected Literature

The purpose of this chapter is to review literature corresponding to the topic of study and related information which will be presented in three sections. The first section will include literature relevant to field dependence, the second section will review literature relevant to field dependence as it relates to chemical dependency, and the final section will review literature relevant to the Group Embedded Figures Test.

#### Field Dependence

Numerous studies have been performed to determine the relationship between the way in which an individual perceptually and intellectually perceives a stimulus and how these perceptions proportionately relate to other areas of psychological functioning (Witken, 1959; Witken et al., 1971; Mroska, Black, & Harding, 1987; Goodenough, Oltman, & Cox, 1987; Falcone, 1985; Guyot, Fairchild, & Johnson, 1984). The majority of research on perception, as it relates to personality, started in the mid to late 1940's (Witken 1959). Witken et al. (1971) determined that an individual's ability to "...keep things separate...", in tests designed to evaluate levels of field dependence,

indicated an elevated level of differentiation in terms of perceptual functioning and "congruent" activity in "other areas of psychological functioning."

Witken (1959) determined that individual differences in spatial orientation as determined by the rod-and-frame experiment and the tilting-room-tilting-chair experiment, were rooted in the "...differences in characteristics of the perceivers." As a result of the differences in these individuals, in terms of perception, individuals can be classified on a continuum of field dependence whose extremes are "field dependent" and "field independent." Witken labeled individuals "field independent" if they could separate an object from its background and individuals as "field dependent" if their "performance reflected relatively passive submission to the domination of the background."

Researchers, as cited by Witken, began the original studies of perception and field dependence/independence trying to determine the significance of the two standards (i.e., body feeling and visual field) utilized by individuals in the perception of the upright. This question evolved, as understanding developed, into a question encompassing personality, as well as, perception. Witken determined that the way in which we perceive our environment is determined by motivations, emotions and defenses, as well as internal feelings and external reference points. In the same study the following was determined: a distinct

difference in the ways that females perceive in comparison to the ways in which males perceive, levels of field dependence are associated with early childhood developmental stages of growth, and the ways in which individuals perceive is related to adaptations and experiences.

In a study performed by Nebot (1988), sex differences among children (i.e., 50 boys/50 girls) were evaluated utilizing the Children's Embedded Figures Test, and males were determined to be superior disembedding triangular shapes (tent series/first section) and no significant difference was detected on the second section (house series). The study reported a slight, overall advantage by the males and, as cited by Nebot, similar studies yielded conflicting results.

Witken et al. (1977) found modest relationships between scores on disembedding tasks and intellectual functioning. Subjects testing toward the field independent extreme were generally superior in intelligence quotient testing. In the same study, Witken stated that while there are differences in overall intelligence quotient test scores, field independent persons should not be classified as "generally" more intelligent. Mroska et al. (1987) compared samples of high achieving students and low achieving students and determined that a significantly greater number of low achieving students were consistently more field dependent.

Witken et al. (1977) also found that while field

independent persons may achieve higher scores in evaluations of intelligence quotient, stereotypes of "good" and "bad" and value judgements should be avoided. Witken operated on the theory that reliance on intellectualization may impede the development of the field independent's emotional life, as intellectualization is a formidable defense. In comparison, field dependent persons are more attentive to external cues and stimuli and consequently may learn more about social issues. Witken's conclusion regarding positive or negative implications of either extreme was that judgements should be based on situational specific circumstances.

Shade (1984) performed a research study to determine which "information processing elements" were predominant in the Group Embedded Figures Test. More specifically, the objective of this project was to ascertain the degree to which field dependency can be attributed to cognitive style as opposed to perceptual skill. The examiner sampled 135 randomly selected ninth-grade students, of which, 60 were males and 75 were female, and 59 were Afro-American and 76 were caucasian. Several accepted tests of field dependence were used and compared to the Myers-Briggs Type Indicator, which was selected as a useful method to determine information decision making. The study concluded that the embedded figures tests may be "...more of a measure of visual information processing than some particular

underlying motivational component."

Welkowitz and Calkins (1984) studied the relationship between cognitive-modeling and scores on evaluations of field dependence. The subjects consisted of 57 females and 14 males who were divided into three groups and were subjected to one of three conditions. The first group (Cognitive Modeling Group) viewed a video tape of embedded figures and an audio dialogue of instructions geared toward task accomplishment. The second group (Exemplar Modeling Group) was exposed the same video tape without the benefit of the audio dialogue. The control group did not receive either of the variables mentioned above. The results indicated that the cognitive modeling was the most effective means of improving scores on embedded figures tests. The relative importance of this study lies in the finding that performance on evaluations of field dependence can be enhanced by exposure to cognitive strategies.

#### Field Dependence as it Relates to Chemical Dependency

Robertson, Fournet, Zelhart and Estes (1987) replicated a study by Kirton in which a relationship was demonstrated between adaption-innovation theory and field dependence. The subjects were 103 male chemical dependents from six inpatient and four outpatient treatment centers in Texas and Arkansas, whose ages ranged from 19 to 60, and whose education average was 12.2 years. The test used to determine levels of field dependence was the Group Embedded

Figures Test and adaption-innovation was determined by the Kirton Adaption-Innovation Inventory. The results of the study found that subjects could be divided into three groups based on the Kirton Inventory scores and the three groups were: (a) adaptors, (b) average, and (c) innovators. The results of the differences between the mean scores on the Group Embedded Figures Test were significant. Innovators had significantly higher scores than the adaptors or the group designated as average and consequently are more field independent than either group. The results also included the following: chemically dependent subjects are more field dependent as a whole, chemically dependent individuals who are more field independent are more adept at utilizing perceptual abilities in problem solving (with cognition tasks that are more demanding), and chemically dependent persons who are more field dependent are more likely to utilize "adaptor-related techniques" when approaching cognition tasks that are perceived as "more demanding." The implications of this study included the concept that problem solving capacities and characteristics of chemically dependent persons should be considered when "therapeutic interventions" are being developed for these individuals.

Shelley-McIntyre and Lapidus (1989) performed a study to determine the relationship between psychological differentiation and performance expectation in persons who are chemically dependent and currently in residential

treatment, outpatient chemically dependent persons and a control group. The subjects numbered 20 in each group and the evaluation used to determine field dependence was the Rod-and-Frame Test. Performance expectation (realistic versus unrealistic self-expectations) was tested by means of the Level of Aspiration Board and the degree of alcohol dependence was measured by the Alcohol Dependence Scale. The results of the study yielded similar standards between the inpatient and outpatient chemical dependents with regard to levels of differentiation. The levels of field dependence were found to be greater for the inpatients and the outpatients in comparison to the control group. The groups of chemically dependent persons were found to be more unrealistic in their self-expectations than the control group and that field dependence demonstrates a moderate positive correlation to unrealistic expectations. The implications and the findings of this study included the results which suggested that the field dependent alcoholic has different needs (i.e., structuring, articulating and differentiating experience) and that changes in treatment modality may foster "...mastery of stress...and mastery over life events" (Shelley-McIntyre and Lapidus 1989, p. 456).

A study was performed by Tarter, Jacob, Hill, Hegedus and Carra (1986) to determine if perceptual field dependency is a predisposing trait or consequence of chemical dependency. The study utilized subjects who were the sons

of chemically dependent fathers (n=35), sons of depressed fathers (n=25) and a control group which consisted of the sons of fathers who were nonchemically dependent and without a previous diagnosis of depression (n=31). This study utilized the Rod-and-Frame test to determine levels of field dependence. The study cited previous research that determined that a child of a chemically dependent parent is at a risk four times greater than children of nonchemically dependent persons of becoming chemically dependent. The hypothesis of this study was that children of chemically dependent parents would score higher on tests of field dependence than children of nonchemically dependent parents. This study (as cited by Tarter et al., 1986) was a replication of, and agreed with, two previous studies of the same nature. Children of chemically dependent fathers were not found to be different from the sons of depressed fathers or the sons in the control group. Field dependency was not significantly correlated as predisposing trait of chemical dependency.

In a similar study Holm, Bergman and Hornsten (1983) evaluated substance abuse induced cerebellar and vestibular damage of chemically dependent persons and performance on evaluations of field dependence. The objective of this project was to determine if the cerebellar and vestibular damage was related to the tendency of chemically dependent persons to test consistently low on evaluations of field

dependence. The subjects (n=13) were tested to determine levels of field dependence utilizing the Rod-and-Frame test. The vestibular and cerebellar damage can manifest itself through ocular or muscular damage in the eye socket, the results of which, would be expected poor performance as the subjects would be more affected by the slanted rod. The results of this study concluded that while alcoholics consistently test poorly on evaluations of field dependence, the substance induced damage did not significantly influence performance levels in terms of field dependence. The implications were that chemically dependent persons, as a result of chemical abuse, can expect to test poorly on evaluations of field dependence.

A study which did not corroborate the findings of the two previously mentioned projects was performed by Steiger, Negrette, and Marcil (1985). This study concluded that field dependence may be a consequence of substance abuse. The study was designed to determine the relationship between field dependence and years of drinking, severity of alcohol dependence, and emotional distress. This study was developed to examine the above-mentioned relationship and four variables were examined as they relate to field dependence. The four variables studied were the following: chronicity of substance abuse, quantity of substance abused (during an average episode), severity of symptoms as they related to dependence, and duration of abstinence from any

mood altering substance prior to examination. Variables used to assess emotional distress were conducted through individual interviews. The two following relationships were determined to be significant: increased levels of field dependence was "...at least partly..." a result of excessive chemical use, and a relationship between levels of anxiety and degree of substance dependence was found to be significant.

#### Group Embedded Figures Test

The Group Embedded Figures Test (GEFT) was designed to foster the efficiency of testing groups (Witken et al., 1971). While the process of testing individuals is tedious with the Embedded Figures Test (EFT), Witken and his colleagues developed the GEFT to simplify the process without sacrificing significant reliability and validity.

The Witken group chose 17 of the 18 complex figures on the GEFT from the original EFT. The EFT utilizes an array of colors to facilitate the embedding structure of the complex figure and the GEFT utilizes a shading pattern to provide a similar embedding effect. Both tests prohibit the subject from viewing the complex figure and the simple form at the same time. This group of researchers originally chose 32 embedding tasks and eliminated, through analysis of testing research data, the items to 18 test items.

Witken et al. (1971) established three sections, the first of which (seven items) is used only as a practice

section. The second and third section comprise the body of the test and are the only items evaluated when arriving at a score on this test. In determining the reliability and validity of the GEFT, the Witken group compared this research tool to "parent tools" designed to measure field dependence (rod-and-frame and EFT). The results of the study found "...reasonably high..." correlations between the GEFT and the EFT, and the GEFT fell "...toward the lower of the range..." when compared to correlations between the RFT and the EFT. This study determined that the GEFT was a "...useful substitute when individual testing was impractical."

McRae and Young (1988) performed a research project in which they compared distribution of scores, sex differences, reliability, and internal consistency findings for their project with the findings of similar and previously reported norms. These researchers administered the GEFT to 150 senior college students (103 male and 47 women) in a business administration curriculum. They compared the GEFT scores they collected with those of the original sample that Witken and his colleagues collected in 1971 and with a more recent study performed by DeSanctis and Dunikoski (1983). The men of the McRae and Young study were found to be significantly more field independent than the men in the original Witken et al. study and the DeSanctis and Dunikoski study. Likewise, the women in the present study were

significantly more field independent than in the Witken et al. study. The relationship was not considered to be significant in comparison to the DeSanctis and Dunikoski study. The relationship between the scores, relevant to sex differences, was considered significant in the Witken study and "nonsignificant" in the McRae study. The overall impressions in terms of reliability and internal consistency were that the test "...showed adequate parallel-forms reliability and internal consistency." As cited by McRae and Young (1988), the DeSanctis and Dunikoski (1983) study determined that sex differences relevant to scores may not be consistent when testing outside of the population sampled.

Cummings and Murray (1987) performed a study similar to McRae and Young (1988) to determine psychometric data for a sample of adult learners as opposed to the undergraduate senior students of the studies previously mentioned. This study was performed with a sample of elementary and secondary school teachers who were comprised of 35 men and 35 women. Because this test was performed on a sample that was older in chronological age than the sample of the original study (Witken et al., 1971), a Pearson product-moment correlation was calculated and the differences in age were found to be nonsignificant. An analysis of the relationship of the scores between the men and women sampled in this study found the correlation to be significant. This

study was consistent in terms of the reliability coefficient cited by Cummings and Murray in relation to previous studies of DeSanctis and Dunikoski (1983) and Witken et al. (1971).

Leahy and Zalatimo (1985) also desired psychometric data for a population differing from many of the original research projects previously performed. For their project they chose a sample of 259 subjects (i.e., 122 males and 137) and administered the GEFT. Significant findings for this population included the finding of no statistical significance in the correlation between the scores of males and females. While a significant number of test items were not attempted because of time restraints, it was suggested that the amount of time should be adjusted from five minutes to six minutes for this age group. It was determined through a pooled variance t-test formula that the subjects of the this study were significantly more field dependent than subjects of previous studies that involved college students. The comparison of this study with studies of subjects younger than this age group yielded conflicting results.

Pincus (1985) performed an investigation to determine psychometric data for a sample of accountants in comparison to student test norms. Practicing accountants (n=124) were evaluated utilizing the GEFT. The scores of the evaluations were compared to previously published norms for samples of students on the college level. This study cited two

previously published studies (Witken, Goodenough & Karp, 1967; Witken et al., 1971) which determined an increase in field independence in relationship to a subject's age from 8 to 15, a stabilization at age 15 through 30, and an increase in field dependence beyond 30. While there were no significant relationships in terms of sex differences in 6 of the 8 comparisons of this study to previously published norms, the accountants were found to be significantly less field independent. The significance of this research lies in the suggestion made by these researchers that comparisons should be made with as similar populations in terms of age and other extraneous variables as possible. Pincus also found the GEFT to have adequate internal consistency and parallel-forms reliability.

Firth and Fitzgerald (1985) evaluated 274 male students who were enrolled in a automotive mechanical apprentice program. The purpose as cited by the authors was to provide "...further normative data on the GEFT which will allow more meaningful comparisons to be made among studies". This study did not corroborate previous findings (Pincus, 1985; Witken et al., 1971) with regards to differences in specialized subgroups (i.e., auto mechanics and college liberal arts students). Although there appears to be a wide disparity between the group tested and Witken's original group the results in comparison were "almost identical." Firth and Fitzgerald further determined in this same study,

opposing Witken et al. (1971), that a practice effect occurred between sections two and three. This study corroborated the findings of Leahy and Zalatimo (1985) regarding the suggestion that the tendency of the subjects to not attempt the last items in the sections may be related to time and not difficulty.

Test-retest reliability and patterns of score change were evaluated in a study performed by Kepner and Neimark (1984). Retest reliability was studied under a research design that incorporated three separate time intervals between the initial test and the retest. The time intervals between the test and retest were: immediate, 10 day delay, and 42 day delay. The only deviation from the suggested testing procedure (instructions on test booklet) involved a reduction in the amount of time normally given to complete the second and third sections (i.e., from 5 minutes to 4).

Kepner and Neimark (1984) viewed the collected data from three separate perspectives which included: test-retest reliability, overall improvement with repetition, and differential improvements between individuals. With regard to test-retest reliability, an inverse significant but moderate correlation was found between time and test score. It was determined that the scores improved when there was a delay in the amount of time between test and retest. Test-retest reliability was found to be significant with a high level of confidence. A clear pattern of improvement was

observed and the amount of time between test and retest did not prove to be a significant variable.

The individual patterns of differential improvement permitted Kepner and Neimark (1984) to group the subjects in four categories based on the level of increase or decrease. The first category, labeled as consistently field dependent, included subjects whose test and retest scores both fell within the range of 0 to 9. Subjects whose scores consistently fell between the 14-18 range were classified as consistently field independent. Subjects whose initial scores fell within the 0-9 range and increased by 7 or more points on the retest were classified as latent field independent. The final classification, labeled as "unclassifiable", included subjects whose scores fell in the upper field dependent range and moved to the lower field independent range. The significance of grouping or classifying the subjects lies in the improved reliability of classifying the subjects as either "field dependent" or "field independent." As cited in this study, test manuals identify a subject as field dependent if the score achieved falls in the 0-9 range. Based on the findings of this study, it was suggested by the authors that a test-retest procedure was preferable in the process of more accurately identifying an individual's level of field dependence. It was further suggested, in the absence of the opportunity to retest, that the range should be adjusted from 0-9 to 0-6 to

identify a subject as field dependent.

The final significant implication in the assertion of Kepner and Neimark (1984) that the GEFT is a reliable evaluation tool. The answer at which Kepner and Neimark arrived regarding the question as to whether the GEFT is reliable was "... a strong affirmative."

## CHAPTER III

### Methods and Procedures

#### Sampling Design

The subjects selected for this study were white males entering a treatment facility for chemical dependency in south central Kentucky during the summer and fall of 1991. The sample consisted of 43 subjects.

#### Instrumentation

The Group Embedded Figures Test (GEFT) (Witken et al., 1971) was utilized to measure psychological differentiation among subjects. The range on the GEFT was 0 to 18. A score of 18 would classify subjects as highly field independent and a score of 0 would classify subjects as highly field dependent.

The reliability for the GEFT was reported by Witken et al. (1971) as .82. Validity estimates, measures attained between the GEFT and the EFT, were reported as -.82. Witken et al. (1971) stated, "The negative relationship is due to the EFT and GEFT being scored in reverse fashion" (p. 29). Appendix B contains a copy of the GEFT.

An interview instrument was developed by the investigator to collect independent variables for the study. Data pertaining to education, income, previous in patient

treatment, admission date, age, previous discharges, drug of choice, frequency of use, amount per episode, and employment status were collected. Appendix A contains a copy of the Interview Instrument.

#### Data Collection

Data collection began with an interview of each subject within 24 hours after the patient's discharge from the medical detoxification phase of treatment. During the interview session subjects answered questions asked by the examiner. The examiner recorded responses on the interview instrument.

When subjects completed the interview session, each was asked to complete the GEFT and provided with pencils and erasers. The examiner administered the test according to the instructions in the GEFT manual. After subjects completed Section I, the practice portion of the test, five minutes was provided to complete Section II and again for Section III.

#### Treatment of Data

Following completion of the test, answers were scored according to the scoring instructions in the manual. One point was awarded for each correct response. Data from the interview instrument and GEFT were merged and transcribed to computer disk for analysis. The Statistical Analysis System (Statistical Analysis System [SAS], 1991) was used for the analysis of all data.

The subjects were classified into three separate groups, as suggested by Kepner and Neimark (1984): (a) as Field Dependent, (b) Unclassifiable, and (c) Field Independent. Subjects whose test scores were less than or equal to six were classified as Field Dependent. Subjects whose test scores were greater than or equal to fourteen were classified as Field Independent. Those subjects whose test scores fell between six and fourteen were identified as "Unclassifiable".

An analysis of variance was utilized to determine if significant differences existed in the number of days required to complete treatment between the subjects classified as Field Dependent and those classified as Field Independent.

## CHAPTER IV

### Findings and Discussion

#### Findings

The subjects for this study consisted of 43 white male patients whose mean age was 42. The youngest subject was 19 years of age and the oldest was 74. Subjects completed an average of 11.67 years of formal education. A total of 17 subjects completed high school and did not pursue a higher degree, 13 pursued a higher degree, and 7 of the 13 completed a four-year degree. Three subjects attended graduate school. One subject completed only the fourth grade. Table 1 summarizes the education level of participants.

---

Table 1

#### Educational Level Of Participants

---

Number Years Completed	<u>f</u>	<u>%</u>
= < 11	13	32.2
High School Graduate	17	49.5
Some College	6	13.9
College Graduate	4	9.3
Attended Graduate School	3	6.9

---

The average age of subjects in the study was 42.27

years with the oldest being 74 and the youngest being 19. The mean number of years of subjects reported abusing substances was 23.79 and the average number of days per week subjects reported using mood-altering substances was 6.13. Thirty-five subjects were married and 18 subjects had been married more than once. Two subjects had been married seven times each. Forty-nine percent of the subjects (i.e., 21 subjects) were employed while the remaining were either unemployed or disabled. Of the 43 subjects in this study, 29 abused alcohol, 6 abused dry chemicals and 8 abused both alcohol and dry chemicals. Seventeen subjects had previously been admitted to treatment centers for chemical dependency and the average number of admissions for all subjects was 2.7. One subject had 19 previous admissions. Sixteen subjects were previously admitted to psychiatric hospitals and the average for all subjects was 1.1 admissions. The average length of stay in the treatment center at the time of this sample was 22. During the current admission, the fewest number of days for in-patient treatment for all subjects was 2 while and the longest was 54. Table 2 summarizes the demographic data for this study.

Table 2  
Demographic Data For Sample

Demographic	<u>n</u>	Mean	<u>s</u>	Low	High
Age	43	42.2	13.2	19	74
Years Abusing	43	23.8	12.5	3	52
Days Abs/Week	43	6.1	1.3	3	7
Days In Treatment	43	22.0	11.8	2	54
Number Of Prv Tx	17	2.7	4.1	0	19
Prev Psycho Admis	16	1.1	2.1	0	12

Subjects' scores on the GEFT ranged between 0 and 17. Twenty-three subjects achieved a score between 0 and 6 and were categorized as Field Dependent. Fifteen scored between 7 and 13, and were categorized as Unclassified. Five subjects scored between 14 and 17 and were categorized as Field Independent. Table 3 summarizes these data.

Table 3  
Group Embedded Figures Test Results  
And Subject Classification

Score Range	<u>N</u>	<u>%</u>	Classification
0-6	23	53.5	Field Dependent
7-13	15	34.9	Unclassified
14-18	5	11.6	Field Independent

Prior to completing the rehabilitation phase of treatment, 17 (i.e., 39.5 percent) subjects choose to quit therapy against the advice of the attending physician. Of this number, 5 were from the Field Dependent Group, 10 from the Unclassified group, and 2 from the Field Independent group.

An analysis of variance, utilizing the Statistical Analysis System (SAS) procedure for General Linear Models, was performed to test the hypothesis that no significant differences existed in the number of days required to complete treatment by the GEFT classifications of Field Dependent and Field Independent. The procedure is suitable for unbalanced designs, where cell sizes are unequal. The resulting analysis revealed that significant differences did not exist between those subjects identified as Field Dependent and Field Independent with regard to length of stay at the treatment facility. Table 4 displays the analysis of variance results.

Table 4  
Analysis of Variance: Days In Treatment  
By Group Embedded Figures Test Classification

Source	<u>DF</u>	Sum of Squares	Mean Scores	F Value
Model	1	82.36	82.36	0.88
Error	26	2443.73	93.98	
Total	27	2526.10		

#### Discussion

The null hypothesis stated that there would not be differences between the individuals categorized as Field Dependent and those categorized as Field Independent. As the Field Dependent and the Field Independent were determined to be similar, the null hypothesis was accepted.

An analysis of variance was performed to determine if significant differences existed between the number of days in rehabilitative therapy at a treatment center for chemical dependency, and scores achieved on the Group Embedded Figures Test. It was determined that significant differences did not exist between those classified as Field Dependent and Field Independent. It was determined through a post hoc analysis that significant differences did exist between individuals categorized as Unclassified and those categorized as Field Dependent and Field Independent.

## CHAPTER V

Summary, Conclusions and RecommendationsSummary

Concern regarding discharges against medical advice at a treatment center for chemical dependency prompted this research project. Patients entering treatment centers are often confronted with the psychological and emotional issues that surround chemical dependency. The admissions to these facilities can be further complicated by physiological problems that often accompany the mental and emotional concerns. As these issues confront the individuals, many patients leave the hospital against the advice of the attending physician and prior to completing the treatment phase offered by the facility.

This project was designed to determine if significant differences existed in the length of stay at a treatment facility and levels of psychological differentiation, as determined by the Group Embedded Figures Test. On the continuum of psychological differentiation, persons classified toward the field dependent extreme utilize external frames of reference to aid in perception of stimuli and theoretically are more inclined to gravitate toward or subscribe to group norms. The persons classified toward the field independent extreme rely on internal frames of

reference to aid in perception and theoretically are more individualistic. Individuals identified toward the middle of the continuum, persons who are not consistently field dependent or not consistently field independent, are categorized as Unclassified. The null hypothesis stated that there would be no significant difference in the number of days required to complete chemical dependency treatment between those patients identified as Field Dependent and those identified as Field Independent, as determined by the Group Embedded Figures Test.

This study was limited by time, number of subjects and a relatively homogenous sample (i.e., white males). The subjects sampled in this project were interviewed to collect pertinent background information pertaining to past substance abuse and were evaluated to determine psychological differentiation, utilizing the GEFT.

Results of the survey instrument were tabulated and transcribed to computer disk, as were the test scores. It was determined through statistical analysis that significant differences did not exist between individuals classified as Field Dependent and Field Independent, relative to length of stay.

#### Conclusions

With regard to the limitations stated and the design imposed on this study, an analysis of the findings supported the following conclusions:

1. Subjects who were identified as Field Dependent did not differ significantly with regard to length of treatment from those individuals identified as Field Independent.
2. Subjects who were identified as Unclassified differed from the Field Dependent and Field Independent classifications. Research to ascertain and explore reasons for these differences may be indicated.
3. The study sample of substance abusers demonstrated a disproportionate average of scores toward the field dependent extreme (i.e., the average score achieved by all subjects was 6) in comparison to individuals who are not considered to be substance abusers (mean for males 12, as determined by Witken et al., 1971), and corroborated the findings of Shelley-Mcintyre and Lapidus (1989), Steiger et al. (1985), Holm et al. (1983), Kalliopuska (1982), Query (1983), and Witken et al. (1971).

#### Recommendations

With regard to the limitations stated and the design imposed on this study, an analysis of the findings supported the following recommendations:

1. The individuals identified as Unclassified in this study averaged almost fifty percent less the number of in-patient days of treatment than those identified as Field Dependent and Field Independent. Within the scope of this study, insufficient data existed to determine why the individuals categorized as Unclassified stayed in the hospital fewer

days by comparison. Further research to determine why this situation existed may be indicated.

2. As substance abusers are consistently more Field Dependent, improved interventions in light of this determination toward the treatment of chemically dependent individuals may improve treatment outcomes. Further research in this area is recommended.

3. As determined through the review of literature, insufficient evidence is available and often conflicting in terms of correlating Field Dependence with alcoholism as a predisposing trait of substance abuse or a result of substance abuse. Further research in this area is recommended.

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APPENDIX A  
SURVEY INSTRUMENT

PATIENT NAME \_\_\_\_\_

MEDICAL RECORDS NUMBER \_\_\_\_\_

ADMISSION DATE \_\_\_\_\_ TEST DATE \_\_\_\_\_

DISCHARGE DATE \_\_\_\_\_ DISCHARGE STATUS \_\_\_\_\_

COMMENTS \_\_\_\_\_

AGE \_\_\_\_\_ SPECIAL CARE YES NO

EDUCATIONAL LEVEL      1 2 3 4 5 6 7 8 9 10 11 12  
                                 1 2 3 4 GRADUATE DEGREE GED

INCOME (YEARLY) \_\_\_\_\_

PRIOR TREATMENT YES NO  
NUMBER OF TIMES \_\_\_\_\_ NUMBER COMPLETED \_\_\_\_\_

PREVIOUS PSYCHIATRIC ADMISSIONS YES NO

DRUG OF CHOICE ALCOHOL ONLY DRY CHEMICALS ONLY BOTH

FREQUENCY OF USE (NUMBER OF DAYS PER WEEK) 1 2 3 4 5 6 7

MARITAL STATUS S M D SP NUMBER OF PREVIOUS MAR. \_\_\_\_\_

EMPLOYED YES NO NUMBER OF JOBS LOST IN LAST YEAR \_\_\_\_\_

ADDITIONAL COMMENTS \_\_\_\_\_

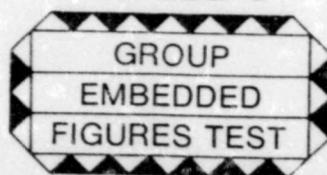
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## APPENDIX B



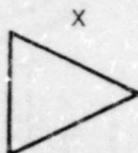
By Philip K. Oltman, Evelyn Raskin, & Herman A. Witkin

Name \_\_\_\_\_ Sex \_\_\_\_\_

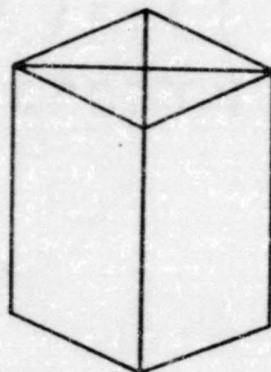
Today's date \_\_\_\_\_ Birth date \_\_\_\_\_

INSTRUCTIONS: This is a test of your ability to find a simple form when it is hidden within a complex pattern.

Here is a simple form which we have labeled "X":



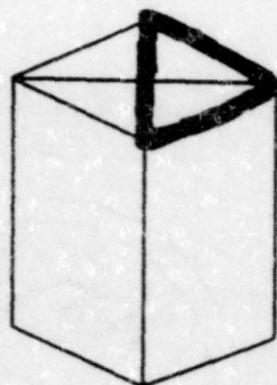
This simple form, named "X", is hidden within the more complex figure below:



Try to find the simple form in the complex figure and trace it *in pencil* directly over the lines of the complex figure. It is the SAME SIZE, in the SAME PROPORTIONS, and FACES IN THE SAME DIRECTION within the complex figure as when it appeared alone.

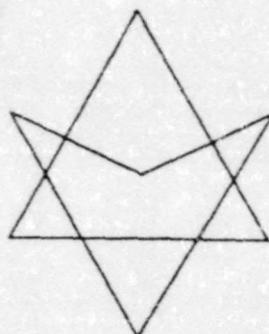
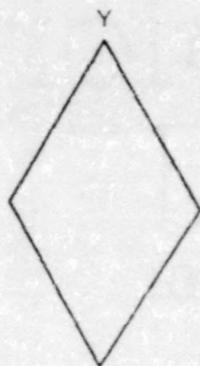
When you finish, turn the page to check your solution.

This is the correct solution, with the simple form traced over the lines of the complex figure:



Note that the top right-hand triangle is the correct one; the top left-hand triangle is similar, but faces in the opposite direction and is therefore *not* correct.

Now try another practice problem. Find and trace the simple form named "Y" in the complex figure below it:



Look at the next page to check your solution. ▶

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Solution:



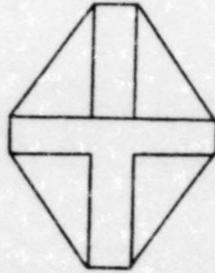
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In the following pages, problems like the ones above will appear. On each page you will see a complex figure, and under it will be a letter corresponding to the simple form which is hidden in it. For each problem, look at the BACK COVER of this booklet to see which simple form to find. Then try to trace it in pencil over the lines of the complex figure. Note these points:

1. Look back at the simple forms as often as necessary.
2. ERASE ALL MISTAKES.
3. Do the problems in order. Don't skip a problem unless you are absolutely "stuck" on it.
4. Trace ONLY ONE SIMPLE FORM IN EACH PROBLEM. You may see more than one, but just trace *one* of them.
5. The simple form is always present in the complex figure in the SAME SIZE, the SAME PROPORTIONS, and FACING IN THE SAME DIRECTION as it appears on the back cover of this booklet.

*Do not turn the page until the signal is given*

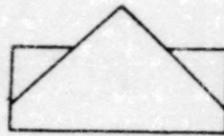
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Find Simple Form "B"

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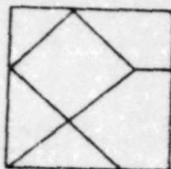
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Find Simple Form "G"

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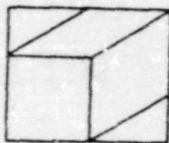
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Find Simple Form "D"

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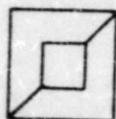
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Find Simple Form "E"

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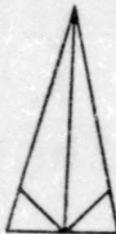
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Find Simple Form "C"

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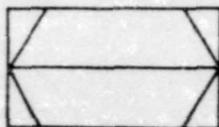
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Find Simple Form "F"

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7



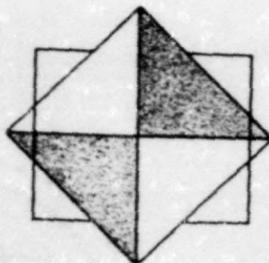
Find Simple Form "A"

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further instructions.

## SECOND SECTION

1



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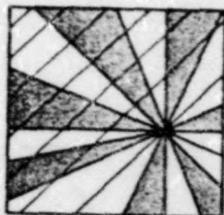
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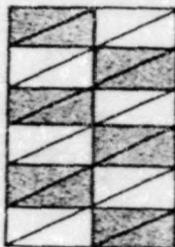
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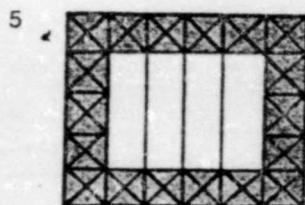
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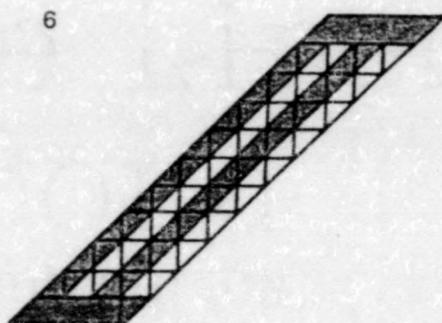
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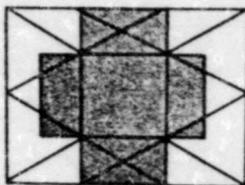
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Find Simple Form "C"

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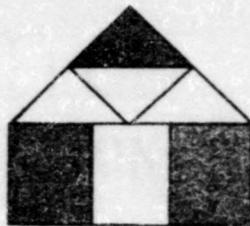
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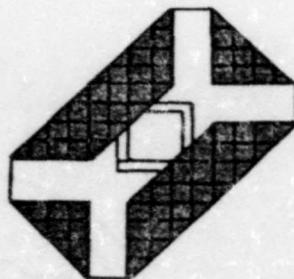
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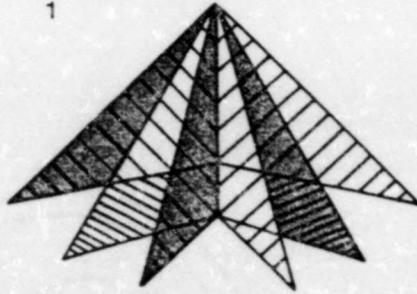
Find Simple Form "H"

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21

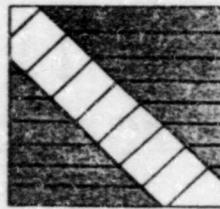
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2



Find Simple Form "G"

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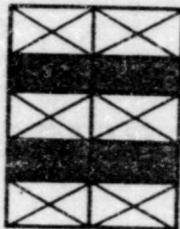
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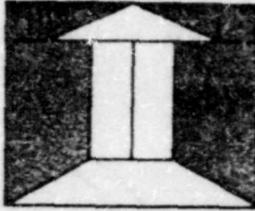
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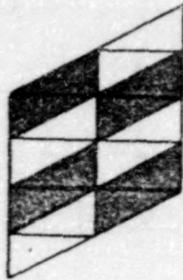
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Find Simple Form "B"

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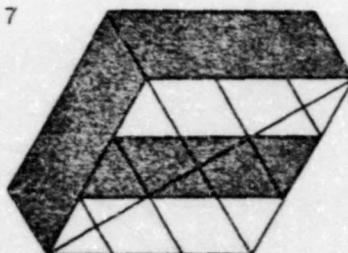
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Find Simple Form "E"

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7



Find Simple Form "A"

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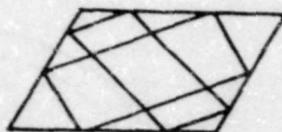
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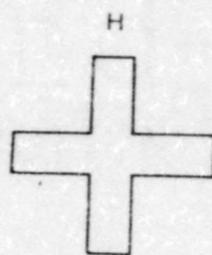
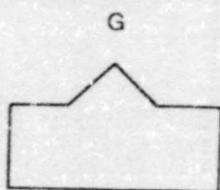
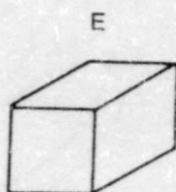
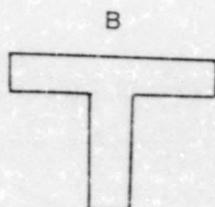
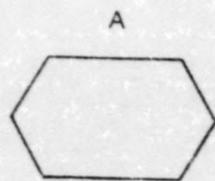


Find Simple Form "A"

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further instructions.

## SIMPLE FORMS



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