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Personality characteristics among adolescent substance-abusers utilizing various MMPI scales

Westphal, Gregory Eric, M.A.
The University of Arizona, 1989
PERSONALITY CHARACTERISTICS AMONG ADOLESCENT
SUBSTANCE-ABUSERS UTILIZING VARIOUS MMPI SCALES

By
Gregory Eric Westphal

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In Partial Fulfillment of the Requirements
For the Degree of
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WITH A MAJOR IN COUNSELING AND GUIDANCE
In the Graduate College
THE UNIVERSITY OF ARIZONA

1989
STATEMENT BY AUTHOR

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The focus of this study was to determine if certain personality traits could be detected within a population of substance-abusing adolescents. The Depression (d), Psychopathic Deviant (Pd), Paranoia (Pa), and Hypomania (Ma) scales of the Minnesota Multiphasic Personality Inventory (MMPI) were utilized as indicators of psychopathological traits for this project. It was found that a significant degree of elevation on these scales was achieved by the subject, when compared to an ideal normative sample. It was concluded that this indicated the presence of certain psychopathological personality traits within this population. The implication that personality differences within this population can be detected could lead to a greater understanding of substance abuse among adolescents, and the potential for more appropriate counseling approaches with such substance abusers.
CHAPTER 1

INTRODUCTION

Because of the current focus on the treatment of people who abuse drugs and alcohol, research has been devoted to the identification of specific aspects of the abuser's personality (Tarnai & Young, 1983; Delatte, 1984). Due to the apparently high use of alcohol by adolescents (Wisniewski, Glenwick, & Graham, 1985), it seems important to identify and address this issue within an adolescent population.

Research has indicated that being aware of the presence of additional psychopathology within populations who abuse drugs and alcohol may be valuable in developing more appropriate treatment programs for these populations (Schaefer, Sobieraj, & Hollyfield, 1987). In adolescent populations of substance abusers, it has been suggested that drugs are often used to "self-medicate" the feelings that occur as the result of these underlying psychopathologies (Hendin, Pollinger, Ulman, & Carr, 1981-82).

The benefits of identifying aspects of the adolescent substance abuser's personality include a better understanding of the client's perspective, and the development of more complete and appropriate treatment plans, which could result in a potential reduction in relapse rate (Daley, 1987).
Statement of the Problem

The problem was to identify aspects of the adolescent substance abuser's personality, as it differs from the normal adolescent population, so that these areas may be assessed and addressed in treatment. Any trends in personality differences identified within this population, as opposed to a normal population, would result in a better understanding of the needs of this population. Treatment could then be more easily designed to focus on the personality features that a given individual may possess.

Purpose of the Study

The purpose of this study was to identify how a population of adolescent substance-abusers differs from the established normative samples. This was done in order to suggest a way to readily identify these aspects of the abuser's personality so that more accurate and focused treatment can be initiated earlier in therapy.

For the purpose of this study an individual was considered a substance abuser if he was in treatment for substance abuse according to the subjective criteria of his guardians and the facility's admitting team. The subjective appraisal includes the individual's reported frequency of use, tolerance developed to the substance used, and perceived lifestyle changes. This study also employed an objective measure, which will be discussed in Chapter 3. No attempt
was made to classify subjects in terms of the substances they used.

**Objective of the Study**

In accordance with the stated purpose, the objective was to identify any distinctive aspects of the adolescent drug abuser's personality. To facilitate this, a commonly employed diagnostic test was utilized so that professionals working in the field could look for similar traits within their populations. The ability to quickly and efficiently identify such traits would aid the development of more appropriate treatment plans.

In summary this thesis attempted to address the question: Do adolescent substance-abusers possess personality traits, as indicated by the chosen instrument, which are indicative of a greater degree of psychopathology than other adolescents?

**Summary**

This chapter contained an introduction to the thesis, as well as stating the problem, and presenting the purpose and objectives of the study.
CHAPTER 2

LITERATURE REVIEW

Overview of Adolescent Development

There exist many, varying theories regarding the nature of adolescent development. Some theories attempt to address problems that arise during adolescence in terms of physical changes such as changes in the endocrine, biochemical and somatic systems. Theories have also attempted to explain changes in cognitive, emotional and behavioral processes (Archer, 1987).

Although physiological changes that occur during adolescence are important, the focus here will be on the cognitive, emotional and behavioral tasks facing the adolescent. Alfred Adler, in his book *The Problem Child*, provides a reason for not focusing on physiological changes when he stated:

At this point I would like to point out something about the psychology of puberty. It is commonly regarded as though the devil has taken possession. All evils are attributed to the sexual glands. This is a ridiculous argument. The sexual glands have been active since birth, and even before birth. Puberty is characterized by other factors: more freedom, more possibilities, and a greater attraction to the opposite sex. Children are powerfully stimulated by the urge to prove that they are no longer children. In proving it they often go too far. (1963)
From this perspective, it is asserted that any difficulties arising in adolescence are the result of attempts to explore the new possibilities by newly realized, creative means (Adler, 1963). Therefore, increased social pressures and the desire to be accepted as an adult may account for the apparent increase in unusual behaviors associated with adolescents.

Other theorists have formulated distinctive steps or stages to explain the apparent changes that occur during adolescence. One theory (Mishne, 1986) postulates that adolescence can be divided into three distinct stages:

1. Early adolescence is characterized by an increasing disengagement from parents, which leads to a frantic search for new social attachments, such as those with the peer group. This shift is one from dependance to independence, in which difficulties arise depending on the coping skills and vulnerability of the individual.

2. Middle adolescence is characterized within this theory as a time of emotional self-absorption. Manifestations of this self-absorption include: daydreaming, fantasies, efforts at developing a stronger sense of self, and an overall sense of uniqueness and isolation. This sense of isolation
may result in aggressive acting out and symptomatic depression.

3. Late adolescence is usually characterized by increased stability, as indicated by a decrease in narcissism, increased tolerance for compromise and frustration, and a greater capacity for delayed gratification. Difficulty in attaining this final stage of adolescence is caused by factors within the individual's environment. Factors which retard the process can include: lack of education, the effects of poverty, physical or sexual abuse, as well as the abuse of drugs and alcohol.

Still other theorists have identified specific cognitive and emotional tasks specific to development of the adolescent. The task of identity-development is imperative because failure to do so can lead to either social isolation, or the confusion of one's identity with that of the peer group (Santrock, 1983). This view of adolescence accounts for the first appearance, and potential for detection, of more serious psychopathology. The conflicts and difficulties imposed by either isolation or overidentification with the group include conflicts with parents and authority figures, experimentation and abuse of drugs and alcohol, delinquency, and suicide (Santrock, 1983).
All these theories appear to acknowledge the potential for development of less desirable patterns of behavior. There also seems to be consensus that adolescence is a time of experimentation, and that the consequences of such experimentation can lead to greater emotional, physical and cognitive difficulties.

Features of Addictive Personalities

Many attempts have been made to identify common characteristics of substance abusers. One attempt to describe substance-abusing, antisocial adolescents, from research at the Highland Hospital in New York, states that they possess the following characteristics:

. . . superficial charm and good intelligence; absence of delusions and other signs of irrational thinking; absence of "nervousness" or psychoneurotic manifestations; unreliability, untruthfulness, and insincerity; lack of remorse or shame; inadequately motivated antisocial behavior; poor judgement and failure to learn by experience; pathologic egocentricity and incapacity for love; general poverty in major affective reactions; specific loss of insight; unresponsiveness in general interpersonal relations; fantastic and uninviting behavior with drink and sometimes without; suicide rarely carried out; sex life impersonal, trivial, and poorly integrated; and failure to follow any life plan. (Selman, 1986)

This lengthy summation would seem to indicate inherent pathology within this population. However it was later noted that many individuals in his population had histories of maladaptive behaviors dating back to early childhood (Selman, 1986).
Research has also been conducted as to whether substance-abusers are primarily extroverted or introverted in their social orientation. Extrovert-type substance-abusers tended to be aggressive, lose their temper quickly and crave excitement. The more introverted substance abusers were perceived as mistrusting of their impulses, disliked excitement, and tended to overcontrol their feelings (Tarnai & Young, 1983; Delatte & Delatte, 1984).

It was reported in one study that adolescent drug abusers tended to exhibit more of the extroverted type of substance-abusing behavior (Delatte & Delatte, 1984). Additional research has also revealed the possibility that younger substance-abusers tended to display more hostility and aggression (Lewis, Rice, Andreasen, Endicott, & Hartman, 1986).

It has been theorized that substance-abusers are self-medicating other underlying pathologies such as depression (Willenbring, 1986). Whether this is an accurate assumption or not does not change the fact that researchers have pointed to the relationship of other psychiatric symptoms in relation to substance-abuse (Schaefer, Sobieraj, & Hollyfield, 1987). It has also been determined in an adult male population that high MacAndrew scores on the Minnesota Multiphasic Personality Inventory were related to other profiles showing elevation (Pfost, Kunce, & Stevens, 1984).
These data seems to raise the question of whether these trends can be demonstrated in an adolescent population, which is the focus of this work.

**Minnesota Multiphasic Personality Inventory**

The current literature reveals that the Minnesota Multiphasic Personality Inventory (MMPI) consists of 556 self reference statements, and is widely utilized within clinical settings as an objective measure of psychopathology (Butcher, 1979). The MMPI's value lies in its ability to aide in the detection and assessment of various clinical diagnoses, which in turn provide a logical basis for treatment (Jacobson, 1983). The MMPI is also heralded as "the most widely used and thoroughly researched of the objective personality assessment questionnaires available today" (Lubin, Larse, & Matarazzo, 1984).

Although the MMPI was designed for use with adults, it has been demonstrated to be a useful instrument with children as young as twelve (Dahlstrom, Welsh, & Dahlstrom, 1972; Archer, 1987). Because of its applicable age range and its frequency of use within clinical settings, the MMPI was an appropriate instrument for this study of adolescents.

The validity of the MMPI has been established over time by the accumulation of a great deal of empirical data (Anastasi, 1988). One limitation of the MMPI is its apparently poor reliability. However, its utility has been
established through years of clinical experience and an extensive body of normative data (Anastasi, 1988).

Due to its apparent prevalence in the literature, its utility with the identified population, and its reported ability to detect psychopathology, the MMPI was used in this study. In the interest of simplicity, several scales were chosen for examination in this study. The scales, their functions, and the reasons they were selected are reviewed in the following chapter.

The Minnesota Multiphasic Personality Inventory with Substance-abusing Adults

Research on substance-abusers' personality characteristics, utilizing the Minnesota Multiphasic Personality Inventory (MMPI), has tended to disconfirm the validity of the "alcoholic personality" (Clopton, 1978; Graham & Strenger, 1988). It has even been reported that the MMPI was often questionable in its abilities to detect substance-abuse when found in conjunction with other types of psychiatric diagnoses such as neurotic or personality disorders in adult populations (Preng & Clopton, 1986a; Apfeldorf & Hunley, 1981).

However, in a later study on adults, it was demonstrated that there was a relationship between substance-abuse and elevation of various MMPI scales (Pfost, Kunce, & Stevens, 1984). It has also been indicated that among adult
male alcoholics between 20 and 65 years old, that younger alcoholics tended to produce higher scores on certain MMPI scales, and that this relationship was also related to age of onset of the alcoholic drinking pattern (Delatte & Delatte, 1984). The purpose of this study was justified by: the conflicting information on the identification of specific personality traits in adult substance-abusers; and the indication that those with early onset of use, and younger alcoholics have been shown to manifest greater psychopathology. The remainder of this chapter will address adolescent development as it relates to addiction and contains an overview of research on addictive personality traits.

**Summary**

It is apparent that adolescents often choose to use drugs to address difficulties that may occur during maturation. It has also been demonstrated that substance-abusers appear to exhibit a greater degree of psychopathology than the general population. Therefore it seemed appropriate to examine whether this population of adolescent substance-abusers would also exhibit a greater degree of psychopathology than other adolescents.
CHAPTER 3

METHODS

Introduction

The intent of this chapter is to describe selected scales of the Minnesota Multiphasic Personality Inventory, and to introduce methods utilized in subject inclusion, data collection, and statistical analysis.

Lie Scale of the MMPI

The Lie (L) scale is based on a group of items that make the respondent appear in a favorable light (Anastasi, 1988). It consists of 15 items selected to identify individuals who attempt to deliberately answer the item pool in a dishonest manner. The scale was used as a criteria for validity in evaluating the scores. A T-score of 71 or higher was chosen as a cutoff for considering the scores too invalid for subject inclusion (Archer, 1987).

Frequency Scale of the MMPI

The Frequency or Confusion (F) scale is said to often indicate an attempt to "fake-bad" by intentionally answering incorrectly (Duckworth, 1979). The scale consists of 64 items selected on the basis that only about 10% of the population will answer the items in the deviant direction.
(Archer, 1987). This scale was also included as a criteria for validity in evaluating scores. A T-score of 86 and above for boys and 96 and above for girls was chosen as warranting elimination from the study due to higher F score obtained by adolescents (Archer, 1987).

**MacAndrew Scale of the MMPI**

The literature stated that the MacAndrew scale (MAC) was developed originally by contrasting the MMPI item responses of three hundred nonalcoholic psychiatric outpatients with responses of three hundred outpatient alcoholics and selecting items that significantly discriminated between the two groups. Two items were then deleted because they inquired directly about drinking and were considered to be susceptible to "faking good", which left the forty-nine item MAC scale in use today (MacAndrew, 1965).

The MAC scale has been demonstrated to be the most robust and promising MMPI alcoholism scale (Preng & Clopton, 1986b). The MAC scale has also been shown to be sensitive to general substance misuse, especially among adolescent polydrug users (Moore, 1984). The MAC has also appeared to identify male and female alcoholics with equal effectiveness (Preng & Clopton, 1986b).

Sources had varied suggestions on the cutoff score for the MAC scale. After reviewing the literature, a cutoff of 24 was chosen for this study (Sinnett, 1985; MacAndrew, 1965).
Depression Scale of the MMPI

It has been suggested in the literature that substance abusers self-medicate underlying problems such as depression (Willenbring, 1986). The Depression (D) scale of the MMPI, when elevated, can be shown to indicate depressive symptomatology in patients who vary widely in terms of age (Dye, Bohm, Anderten, & Cho, 1983).

Research has also shown that high MMPI D scale scores were related to readmission of alcoholic patients (Slater & Linn, 1982-83). As a result, it has been suggested that "some alcoholic relapses associated with depression could be prevented if the depression could be properly identified and treated" (Willenbring, 1986). It seemed the D scale would therefore be useful for inclusion in this study of adolescent substance abusers, due to its reported utility and its potential implications in treatment and relapse prevention. The cutoff for considering the individual's D scale score as having a marked elevation was a T-score of 70 and above (Anastasi, 1988; Duckworth, 1979).

Psychopathic Deviate Scale of the MMPI

The literature revealed a tendency for substance abusers to exhibit rebellious urges and resentments toward authority (Pfost, Stevens, & Kunce, 1984; Archer, 1987). The Psychopathic Deviate (Pd) scale purports to measure personality characteristics associated with poor judgement, the
inability to benefit from experience, and a rebellious attitude toward traditional socially accepted mores (Klinge, Culbert, & Piggott, 1982; Archer, 1987). It is reasonable therefore to include the Pd scale in an attempt to detect these aspects of a substance abuser's personality.

The Pd scale has also been used to assess the potential for hostile and aggressive behavior (Bayer, Bonta, & Motiuk, 1985). The Pd scale has proved useful in detecting these types of personality characteristics associated with substance abuse (Klinge, Culbert, & Piggott, 1982). Archer (1987) found that an elevation of the Pd scale accompanied by an elevation of the D scale was associated with adolescents who tended to act impulsively, had disregard for social standards and had problems with authority figures. It seemed prudent to include the Pd scale to see if such characteristics could be detected in this population. If the characteristics were present, they would have a profound effect on treatment planning, as well as the potential detection of attitudinal or behavioral problems that might interfere with treatment if unaddressed. The cutoff for considering the individual's Pd scale score as being markedly elevated was a T-score of 70 and above (Anastasi, 1988; Duckworth, 1979).

Paranoia Scale of the MMPI

The literature revealed that the Paranoia (Pa) scale of the MMPI tended to indicate various aberrant
characteristics, such as paranoid ideation, paranoid behaviors, and delusions of grandeur (Klinge, Culbert, & Piggott, 1982; Hovanitz, Gynther, & Marks, 1983). It has also been demonstrated that younger substance abusers appear to display more paranoid behaviors (Faulstich, Carey, Delatte, & Delatte, 1985). It has been observed that an elevation of the Pa scale, with an elevation of the Pd scale was associated with an attitude of defiance, negativism, disobedience, and treatment referrals from court agencies (Archer, 1987). This information, in conjunction with research indicating a positive relationship between high Pa scale scores with readmission for alcohol treatment (Slater & Linn, 1982-83), lead to the scale's inclusion in this study. The cutoff for considering the individual's Pa scale score as having a marked elevation was a T-score of 70 and above (Anastasi, 1988; Duckworth, 1979).

Hypomania Scale of the MMPI

The Hypomania (Ma) scale of the MMPI is reported by the literature to measure overactivity and emotional excitement (Klinge, Culbert, & Piggott, 1982). It has also been correlated with measures of "experience seeking" (Hovanitz, Gynther, & Marks, 1983).

In adolescent populations an elevation of this scale in association with an elevation of the Pd scale has been associated with acting-out behaviors (Archer, 1984). Since
substance abuse may be considered a form of "acting out" behavior, and since other forms of socially unacceptable experience-seeking often accompany substance abuse (Moore, 1984), this scale was considered. The decision to include the Ma scale was made primarily from this purported relationship with the Pd scale in the assessment of such behaviors. The cutoff for considering the individual's Ma scale score as having a marked elevation was a T-score of 70 and above (Anastasi, 1988; Duckworth, 1979).

**Focus of the Study**

With the above in mind, the study addressed the following issue: Do adolescents who produced valid profiles and had MacAndrew's scores above the cutoff score, possess psychopathological personality traits, as measured by the chosen scales, to a degree significantly greater than the general adolescent population, as represented by normative data?

**Subjects**

Subjects for this study were 73 males and females between the ages of thirteen to eighteen. All subjects were inpatients, between the dates of 3/28/88 and 2/11/89, in a drug and alcohol treatment program for adolescents located in the southwestern United States. After the initial week of treatment, usually considered a minimum period for
detoxification, all subjects were administered the 556-question MMPI as part of their assessment. Subjects were eliminated from the study by virtue of an invalid MMPI profile, or by a score below the cutoff for the MacAndrew scale.

Data Collection

The scores of all inpatients who were administered the MMPI were obtained. Scores on the selected MMPI scales were then collected from the patient's records. Each set of associated scale scores was assigned a number to identify each subject's set of data (1-73). While no attempt was made to maintain a record of patient name in association with the scale scores, it was necessary to record the subject's age and sex so that raw scores could be converted to T-scores from the tables utilized (Archer, 1987). T-scores were used because they represent a normalized score, in this case in terms of age and sex. Following the criteria established for inclusion, 24 subjects were eliminated from the study. Seventeen were eliminated for attaining a MAC scale score below 24; 5 were eliminated for an F scale above the cut-off; 1 was eliminated for an L scale above the cut-off; and 1 was excluded for a MAC scale score below the cut-off in conjunction with an elevated L scale. After eliminations, subjects were reassigned numbers from 1-49. These procedures insure that it is not possible to trace a set of scores to the
individual, nor can the data be used to show that an individual was in treatment at the facility, thus guaranteeing that confidentiality would be maintained.

Statistics

For the forty-nine (49) subjects who remained after elimination, scores for each of the four scales were converted to T-scores using the tables found in Robert P. Archer's *Using The MMPI With Adolescents* (1987). A computerized multivariate analysis of variance (MANOVA) for a single sample was used for all scales examined. After these data were compiled, a computerized univariate analysis of variance was used for each individual scale. Levels of probability were calculated by computer. For the purpose of this study, a level of probability of $P < .05$ was selected to evaluate the elevation of all scales together, and $P < .01$ was selected to evaluate elevation of scales when taken individually. These data, compared to an ideal set of data, will be included in the next chapter.

Summary

This chapter reviewed specific scales of the MMPI employed. It also presented procedures for subject inclusion, data collection, and statistical operations used in this study.
CHAPTER 4

RESULTS

An appropriate method of doing a simultaneous test of all the variables, as represented by T-scores, is a single sample Hotelling's T-squared. Using a computerized MANOVA (multivariate analysis of variance) run on SPSSX in RVAX, a Hotelling's T-square equivalent was obtained. The Wilks Lambda statistic produced will be analogous to the Hotelling's T-squared statistic. For this study, these operations were performed to compare T-scores obtained to an idealized set of T-scores with a mean of 50, and a standard deviation of 10.

The multivariate test of significance was performed by examining the Wilks Lambda statistic. The value of the Wilks Lambda statistic was .18622. The value of the Wilks Lambda statistic was transformed into an F statistic to facilitate determining the level of significance of the data examined. The value of F which corresponded to the Wilks Lambda in this case was 49.1608, with the degree of freedom reported to be between 4.00 and 45.00. The probability corresponding to a value of this magnitude was reported to be .000. This demonstrates significance beyond the .05 level chosen for the multivariate analysis. These data indicate
that for the sample population, scores obtained on all considered scales varied significantly from the idealized norm group.

Having found significance in the overall MANOVA, results of univariate ANOVAs (analysis of variance) were examined. These univariate ANOVAs are analogous to single sample T-tests. The stepdown analysis of the multivariate analysis revealed an elevation of the means on each of the scales beyond what could be expected from a normal population, as represented by an ideal set of T-scores. Mean elevations and standard deviations of the scales, beyond an idealized mean of 50, were obtained by analysis of the subjects data and are reported in Table 1.

In addition, univariate tests of significance were performed. The reported degree of freedom for all results was between 1 and 48. The F statistic values, as well as the level of significance are in Table 2.

The significance of F in all cases far exceeded the value of .01 set for these tests. This indicates that for the sample, means for each scale showed elevation above the idealized norm beyond what could be expected to occur by chance.

Summary

This chapter contained a review of the results of the statistical operations employed in this study.
Table 1. Mean elevations and standard deviations of examined MMPI scales, beyond an idealized mean of 50.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean Elevation</th>
<th>Standard Deviation</th>
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<tbody>
<tr>
<td>D</td>
<td>10.735</td>
<td>13.036</td>
</tr>
<tr>
<td>Pd</td>
<td>16.571</td>
<td>11.556</td>
</tr>
<tr>
<td>Pa</td>
<td>9.000</td>
<td>10.865</td>
</tr>
<tr>
<td>Ma</td>
<td>15.735</td>
<td>8.739</td>
</tr>
</tbody>
</table>
Table 2. Measure of significance of F statistic values for various scales.

<table>
<thead>
<tr>
<th>Scale</th>
<th>F-value</th>
<th>Significance of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>33.22438</td>
<td>.000</td>
</tr>
<tr>
<td>Pd</td>
<td>100.76256</td>
<td>.000</td>
</tr>
<tr>
<td>Pa</td>
<td>33.62372</td>
<td>.000</td>
</tr>
<tr>
<td>Ma</td>
<td>158.86003</td>
<td>.000</td>
</tr>
</tbody>
</table>
CHAPTER 5

CONCLUSIONS

Observations

It is evident that this group of adolescent substance-abusers demonstrated a significant degree of elevation on various scales of the MMPI when an idealized normative group. The degree of significance was much greater than expected for all measures utilized.

None of the means were elevated above a T-score of 70, which would be indicative of marked elevation. However, the Pd and Ma scales were elevated well above a T-score of 60, which is considered a moderate elevation. The D scale was at the cutoff for being considered moderately elevated, and the Pa scale fell below this cutoff (Anastasi, 1988; Duckworth, 1979).

Since the means of the D, Pd, and Ma scales were elevated by one standard deviation above the mean of an ideal normative group, issues dealing with depression and acting-out can be anticipated in this population. Treatment planning to address such issues is warranted by the findings of this study.
Limitations of the Study

Several limitations in this study are apparent:

1. Despite normalization of the raw scores to T-score in regard to age and sex, no attempt was made to examine possible age or sex differences within this population.

2. Because subjects were inpatients at a hospital-based, for-profit treatment center, it is evident that the study suffered from preselection in terms of financial status.

3. Another possible source of preselection is that placement in such a facility indicates the individual has already acted out according to the subjective criteria of those who act as his guardians.

4. It was not possible to address issues of subject ethnicity, family history, education level or other demographic factors that may have affected the results.

5. There was no actual control group utilized, only a projection of a statistically ideal population.

6. This study only observed the elevations on the scales produced by the adolescent substance-abusers, it is possible that such elevations may not be exclusive to the sample.
7. Only certain MMPI scales were examined, so evidence about other possible differences among this population were unavailable.

**Summary and Conclusions**

Within the scope of this project, the population showed evidence of a higher degree of psychopathology than would be expected in a normal population. It can be assumed that this population would evidence a higher degree of acting-out behaviors than their non-substance-abusing peers. These conclusions were based upon data collected and statistics generated from that data.

One important issue in substance-abuse counseling is whether apparent abnormal personality traits lead the adolescent to abuse drugs and alcohol, or does drug- and alcohol-abuse produce changes in the individual's personality. This question was beyond the scope of this study. What can be said is, that at the time of treatment and assessment, these substance-abusing adolescents did differ from what could be expected in a non-substance-abusing sample.

The information that adolescent substance-abusers can be shown to possess detectable personality features implies that diagnostic tools such as the MMPI should be utilized as part of an assessment process to detect such traits. Once detected, these features can be used to better understand
each client's needs as well as help to tailor more specific treatment plans to address those needs. It was apparent within the population examined in this study that issues involving acting-out and impulse-control were appropriate treatment issues.

It is recommended that further research be conducted with a similar population to study these observations in more detail. One possibility is to account for more demographic variables within the population to be studied. One way to address this would be to establish a norm group with the same demographics as the substance-abusers to be studied. It would also be valuable to examine complete MMPI profiles to detect a wider range of possible characteristics within this population.
REFERENCES


