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Title: The Connection Between Maltreatment and Adolescent Drug Abuse

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The purpose of this study was to compare the delinquent behavior, psychological health, and emotional well–being of maltreated and nonmaltreated adolescents in a chemical dependency treatment program. Data were collected over a seven year period from intake interviews and Minnesota Multiphasic Personality Inventory (MMPI) scores of 522 adolescent patients at a chemical dependency treatment program in a Northwest city of about 100,000. The subjects consisted of 220 females and 302 males. Maltreatment was self–reported by 43% of the females and 17% of the males. Results indicated that maltreated, drug–addicted adolescents engaged in significantly more delinquent behavior, including arrests and drug–related arrests, suicide attempts, runaway behavior and illicit drug use than nonmaltreated adolescents in the program. Results of the MMPI scores revealed that maltreated adolescents scored significantly higher than nonmaltreated adolescents on eight of the ten clinical scales, indicating that maltreated adolescents entered the drug treatment program with higher levels of psychological and emotional distress than did their peers. Analyses run separately for males and females revealed that differences between maltreated and nonmaltreated patients could be accounted for, in large part, by differences between maltreated and nonmaltreated females. Maltreated females, but not males, scored significantly higher on

total drug use, and on the Hypochondriasis (Hs), Hysteria (Hy), Psychasthenia (Pt), and Schizophrenia (Sc) scales of the MMPI. The unique needs of maltreated adolescents, in particular maltreated females, in drug treatment programs are discussed.

The Connection Between Maltreatment and Adolescent Drug Abuse

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Margaret A. Keefe

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Redacted for Privacy

Head of Department of Human Development and Family Sciences

Redacted for Privacy

Dean of Graduate School

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INTRODUCTION

The physical and sexual abuse of children and the misuse of drugs by young people have gained increasing attention from researchers, clinicians, and the general public in the past few decades. Researchers have documented the steady rise of both maltreatment and drug abuse since the 1960's, examining their antecedents, correlates, and consequences. Clinicians, concerned about the impact of maltreatment and drug abuse, are exploring numerous treatment strategies to help adolescents overcome their negative effects. Despite the considerable efforts of clinicians, lobbyists, and researchers, a growing portion of the population continues to be affected by the problems of drug addiction, child abuse, and their lifelong repercussions .

The shroud of secrecy surrounding child abuse makes it extremely difficult to determine the true incidence rate. Estimates of non–accidental injuries to children in the United States range from one million to four million cases per year (Strauss & Gelles, 1980). Other studies have reported that from 19% to 64% of all females and from 3% to 32% of all males will experience some form of sexual abuse before age eighteen (Budin & Johnson, 1989; Trudell & Whatley, 1988). A study of over 1,500 convicted sex offenders found that 998 of their sexual assaults were of children under fifteen (Gebhart, 1965). In Washington D.C., a doctor reported that abused children "are more common among Children's Hospital patients than broken bones and tonsillectomies" (Rush, 1980, p. 5).

Although most studies of abuse have focused on the maltreatment of young children, studies have also shown that adolescents are frequently the victims of adult aggression. Libbey and Bybee (1979) reported that almost half of all cases of physical

abuse involve a youth between the ages of 13 and 18. The National Incidence Study reported that 47% of known cases of maltreatment involved adolescents (Powers & Eckenrode, 1988). Even though the number of reported cases of abuse has been rising steadily since the 1970's (Berman, 1990), there is good reason to suspect that these cases are only the tip of the iceberg, as it has been estimated that 50% to 90% of all assaults of youths remain unreported (Butler, 1978).

The vast majority of research in the area of child abuse indicates that the effects can be devastating. Browne and Finkelhor (1986) reported that the initial effects of abuse include fear, anxiety, depression, low self–esteem, anger, hostility, and inappropriate sexual behavior. In the long–term, they stated that the most consistently reported effects include depression, self-destructiveness, suicidal ideation, substance abuse, anxiety, sleep disturbances, feelings of isolation and stigmatization, negative self-concept, and a tendency toward revictimization. Other studies have found that if the harmful effects of abuse are not resolved during childhood, the repercussions could continue to plague the victim throughout adulthood. Tsai, Feldman-Summers, and Edgar (1979) found that adult women seeking therapy for problems associated with childhood molestation reported a history of poor family relationships, an attitude of distrust toward the world, low self–concept, difficulty in becoming emotionally involved with others, and a tendency to view sexuality as a hostile act through which anger is released. Taken as a whole, these studies indicate that maltreatment may impair the normal course of cognitive, social, and emotional development of the victim.

A second area that is receiving an unprecedented amount of attention, both in the public and private sectors, is drug addiction among adolescents. The incidence level of adolescent drug use has risen so dramatically in the past two decades that many experts are referring to it as a problem of epidemic proportions (Shedler & Block, 1990). Alcohol is the drug of choice among adolescents in the United States (Morehouse, 1989). It is estimated that every year each person 14 years and older drinks approximately 2.7

gallons of alcohol (Kozicki, 1986). One study found that 30% of tenth to twelfth graders misuse alcohol (Rachel, Guess, Hubbard, Maisto, Cavanaugh, Waddell & Benrud, 1980), and a survey conducted in 1988 by the University of Michigan's Institute for Social Research reported that 92% of all high school seniors have consumed alcohol, 64% have consumed alcohol within the last 30 days, 4.2% drink on a daily basis, and 35% have had five or more consecutive drinks on one occasion within the past two weeks (Morehouse, 1989). Another study reported that approximately 28% of high school students consume alcohol once a week or more (Rachal, 1980).

There is evidence that teenagers are experimenting with an increasing variety of drugs, including marijuana, heroin, amphetamines, barbiturates, methaqualone, tranquilizers, and tobacco. It has been estimated that one out of every six adolescents between the ages of 12 and 17 uses marijuana on a regular basis (Kozicki, 1986). As with child maltreatment, it is impossible to determine the exact incidence rate of adolescent drug use, however, most researchers and clinicians agree that levels of drug experimentation and addiction among adolescents have been rising at an alarming pace over the past few decades.

Although the vast majority of high school students experiment at some time with drugs, numerous authors have found differences between those who experiment with and those who abuse drugs (Shedler & Block, 1990; Stiffman, Earls, Powell & Robins, 1987; Barnes, 1984). Adolescents who become addicted to drugs have been described as rebellious and nonconforming, distrustful, emotionally withdrawn, profoundly unhappy, and socially alienated (Shedler & Block, 1990). Furthermore, they are more likely to engage in deviant or delinquent acts (Barnes, 1984), and are less likely to have a strong and supportive relationship with their parents than do their non–addicted peers (Vicary & Lerner, 1986). Adolescent drug abuse has been linked to trouble with school officials, difficulty forming and maintaining friendships, truancy, stealing, poor grades (Barnes, 1984), and long–term psychological problems (Schlesinger, Susman & Koenigsberg,

1990). Overall, adolescents who are addicted to drugs are a risk not only to themselves, but also to their families, their peers, and their communities.

Until recently, the possibility of a connection between physical or sexual abuse and drug addiction among adolescents has remained relatively unexplored. A few studies, however, have found that adolescents who have been maltreated have a higher level of drug use than nonmaltreated adolescents (Dembo, Dertke, La Voie, Borders, Washburn, & Schmeidlers, 1987; Singer & Petchers, 1989). Other studies have found that an alarmingly high proportion of adolescents in drug treatment programs have experienced maltreatment (Cavaiola & Schiff, 1988; Edwall, Hoffmann & Harrison, 1989). Based on the findings of the child abuse literature, which show that survivors of maltreatment frequently suffer from serious emotional and psychological problems, it seems likely that maltreated adolescents are at greater risk of becoming drug–addicted than their nonmaltreated peers. Furthermore, it is possible that these psychological and emotional problems will make the treatment needs of maltreated adolescents different from those of the rest of the adolescents in the program. The purpose of this study is to compare the emotional well–being, delinquent behavior, and psychological health of adolescents in a drug treatment program who have experienced maltreatment with adolescents in the same program who have not experienced maltreatment.

LITERATURE REVIEW

A review of the literature suggests that both maltreated youths and chemically dependent youths may be less emotionally adjusted, have higher rates of delinquent behavior, greater drug use, and lower levels of psychological health than other adolescents. Research findings in each of these areas will be reviewed. In addition, studies using the MMPI to examine maltreated and drug–addicted populations will be reviewed.

Emotional Well–Being

The first area in which maltreated and drug–addicted adolescents differ from their peers is emotional well–being. Survivors of physical or sexual abuse and drug–addicted teens consistently report emotional problems ranging from sadness, apathy, and inadequacy to savage self–hatred, self–mutilation, and suicide (Browne & Finkelhor, 1986; Shedler & Block, 1990). One of the most commonly reported effects of child maltreatment is depression, both immediately following the abusive episode, and later in life (Browne & Finkelhor, 1986). In a review of 27 empirical studies on the effects of child sexual abuse, Browne and Finkelhor found that depression was one of the most consistently reported effects. Bach and Anderson (1980) found that abused adolescents exhibited symptoms of distress including depression, sleep difficulties, phobias, and guilt. In another study, adolescent and adult survivors of abuse reported feelings of stigmatization and isolation, negative self–concept, anxiety, and sleep disturbances (Carmen, Reiker & Mills, 1984).

Depression and negative self–concept also characterize adolescent drug abusers. In a 15 year longitudinal study that followed 101 San Francisco Bay children from age 3 through 18, Shedler and Block (1990), described frequent drug users as "interpersonally alienated, emotionally withdrawn, and manifestly unhappy" (p. 617). The authors traced these personality characteristics back as early as the age of 7, when these children were

described as "not able to limit negative feelings, not self–reliant or confident . . . not proud of their accomplishments, not vital or energetic or lively, not curious and open to new experience . . .<and> appearing to feel unworthy and 'bad"(p. 618). These findings have been substantiated by others (Newcomb & Harlow, 1986; Stiffman, Earls, Powell & Robins, 1987).

Adolescents who have been maltreated also report lower feelings of self–worth than their peers. In a study assessing the self–concept of abuse victims, Orr and Downes (1985) administered the Offer Self Image questionnaire to 20 adolescent females who had been sexually abused. The scores revealed that they perceived themselves as less able to master or control their environment than a control group of non–abused adolescent patients. In a number of studies victims of abuse have been found to be more self–destructive, and have a higher rate of suicide attempts than non–abused individuals (Browne and Finkelhor, 1986). Briere (1984) found that 51% of "walk–in" clients at a community health counseling center who reported maltreatment had a history of suicide attempts, compared with 34% of nonmaltreated clients. In a more recent study, Briere, Evans, Runtz, and Wall (1988) found that 55% of the clients in a crisis center who had been maltreated had a history of suicide attempts, compared with 20–25% of the clients who had not experienced maltreatment.

Among chemically dependent adolescents, feelings of low self–worth often manifest themselves in suicide ideation, attempts, and completions. The American Academy of Pediatrics (1988) has identified substance abuse as one of the most commonly reported behavioral characteristics of young adults who attempt suicide. In a study of 2,785 youths between the ages of 13 and 18, Stiffman, Earls, Powell, and Robins (1987) found that those who abused drugs were more than twice as likely to engage in suicidal ideation or attempts as low users.

Gender differences

Numerous studies have found gender differences in the emotional health of drug–addicted and maltreated individuals. One difference that has consistently been noted in studies comparing the reaction of males and females to maltreatment is that, although both males and females report a higher level of hostility and anger than nonmaltreated subjects, the way this anger is manifested is markedly different in each group. In males, feelings of anger are directed toward others in acts of aggression, violence, and sometimes brutality, while abused females tend to direct their anger inward, becoming more passive, depressed, and resigned (Carmen, Rieker, and Mills, 1984).

Some maltreated females focus both their anger and their blame on themselves in ways that even experienced clinicians find profoundly disturbing. In a study presenting group therapy techniques for sexually abused preteen girls, Berman (1990) described the girls as engaging in self–destructive activities ranging from eating disorders to head banging and wrist slashing. Carmen, Rieker, and Mills (1984) compared male and female psychiatric patients who had histories of maltreatment with non–abused psychiatric patients. Although both male and female victims of abuse had a higher level of suicide attempts than non–abused patients, it was the females who had the highest rate of suicidal thoughts, suicide attempts, and demonstrated the highest degree of self–mutilating behaviors. Sixty–six percent of the abused females directed their anger inward compared with only 20% of the abused males and 10% of the non–abused patients. The authors described these abused females as having "active suicidal intent and/or savage self–hatred, with a loss of control reflected in a variety of self–destructive and self–mutilating behaviors" (p. 380).

Comparisons of male and female substance abusers have also shown differences in their emotional health. Adolescent and adult females are more likely to be diagnosed with depression (Carmen et al., 1984; Curlee, 1970) than male substance abusers. Women in

treatment for alcoholism have been found to lack a sense of purpose and meaning in life compared to alcoholic men (Schlesinger, Susman & Koenigsberg, 1990). Female substance abusers are more depressed, and feel more powerless and alienated than males. They are more likely than men to "self–medicate" in order to obliterate feelings of powerlessness and inadequacy (Beckman, 1984). Finally, female drug abusers have been found to have higher rates of suicide and suicide attempts than both male drug abusers and non drug–addicted males and females (Winokur & Clayton, 1968).

In sum, these studies suggest that adolescents who are survivors of maltreatment and those who are frequent users of drugs experience many of the same emotional problems. Both groups are withdrawn, socially alienated, and demonstrate an attitude of mistrust toward others and hostility toward the world (Browne & Finkelhor, 1986, Shedler & Block, 1990). Both groups suffer from feelings of low self–esteem and self–hatred, have difficulty establishing and maintaining intimate relationships, report feeling profoundly unhappy, and are more likely to have attempted or contemplated ending their lives (Barnes, 1984; Tsai et al., 1979; Vicary & Lerner, 1986).

Comparisons of males and females among maltreated and drug–dependent populations suggest that females are at the greatest risk for self–mutilation, attempted suicide, and other acts of self–destruction. Females also appear to suffer from more emotional problems, including depression, low self–esteem, and feelings of powerlessness and inadequacy than do males.

Delinquent Behavior

A second area in which maltreated and chemically dependent adolescents differ from their peers is delinquency. A number of studies have shown an association between delinquent behaviors and a history of maltreatment and/or drug abuse (Libbey & Bybee, 1979; Stiffman, Earls, Powell & Robins, 1987; Barnes, 1984). In a follow–up study of

physically abused children, Howell (1974) found that approximately half had criminal records as adults. Berman (1990) conducted a study of a therapy group for physically, emotionally, and sexually abused pre–teen girls. Thirty percent of the girls had a history of running away and truancy. Alfaro (1978) reported that nearly 70% of all juvenile delinquents have a history of documented abuse (Garbarino, 1980). A study in Arizona compared the offenses of adolescents with a known history of maltreatment with the offenses of adolescents with no history of abuse. Thirty–five percent of the crimes of abused adolescents were "escape" offenses such as truancy and running away. For the non–abused adolescents "escape" offenses constituted only 18% of their crimes (Garbarino, 1980).

The connection between adolescent drug abuse and delinquency is well documented, in part, because illicit drug use itself is one definition of delinquency. In a study examining the association between adolescent drug use and socio–environmental, physical, and mental health problems, Stiffman et al. (1987) reported that the most frequently cited correlate of alcoholism is delinquency. Barnes (1984) found a high correlation between heavy drinking and delinquent behavior. She characterized adolescent problem drinkers as "having negative attitudes toward school, receiving poor grades in school, and having poor interactions with parents" (p. 344). In addition, heavy drinkers were more likely to engage in other deviant behaviors, including running away from home, staying out later than parents allow, truancy, and using marijuana (Barnes, 1984). Other studies have shown that adolescent excessive drinkers were more likely to accept or participate in deviant acts than were non problem drinkers (Jessor, Graves, Hanson & Jessor, 1968).

Gender differences

Although the majority of delinquency studies focus on males, a few studies have noted differences in the delinquency behavior of males and females. For both maltreated and substance–abusing females, delinquency often takes the form of truancy, sexual acting

out, and prostitution (Berman, 1990; Browne & Finkelhor, 1986). For males, delinquency centers around stealing, aggressive or noncompliant behavior toward authority figures, sexual offenses, academic problems, and criminal convictions (Lamphear, 1985; Vander Mey, 1988).

In sum, these studies indicate that maltreatment and substance abuse are both highly associated with delinquency in adolescents. Up to 70% of juvenile delinquents have a history of physical or sexual abuse (Garbarino, 1980), and heavy drinkers and drug abusers have been found be tolerant of, and participate in significantly more acts of delinquency than their non–using peers (Jessor, Graves, Hanson & Jessor, 1968). Current research reveals some differences in the type of delinquent acts that males and females participate in, however, more research is needed in order to understand these differences.

Drug Use

A third area in which maltreated, substance–abusing adolescents differ from their peers is drug use. Although some experimentation with drugs, including alcohol and tobacco has become commonplace among adolescents (Shedler & Block, 1990), the majority of adolescents do not become chemically addicted. Several studies have suggested one factor that may predispose adolescents to becoming drug–addicted is a history of maltreatment (Cavaiola & Schiff, 1988; Schaefer, Sobeiraj & Hollyfield, 1988; Edwall, Hoffmann & Harrison, 1989).

Studies that have examined chemical dependency treatment programs have revealed that an alarmingly high proportion of adolescent patients are survivors of previous physical or sexual abuse. In a review of nine inpatient facilities in five states, Edwall, Hoffmann and Harrison (1989) found that 35.2% of the adolescent girls in the treatment programs had been sexually abused. Cavaiola and Schiff (1988) identified 30% of the adolescents in one

chemical dependency treatment center as victims of physical and/or sexual abuse. Schaefer, Sobieraj, and Hollyfield (1988) found that 33% of the patients in a treatment program for adult male alcoholics had been physically abused as children. It is important to be aware of the fact that these figures were compiled from the self report of the victims. Due to the amount of stigma attached to sexual and physical abuse, the victims may have been reluctant to disclose their history of abuse, and the actual levels of victimization may be even higher than previously reported.

Two studies have found higher levels of drug use among maltreated adolescents than among nonmaltreated adolescents. Singer and Petchers (1989) compared the drug use of sexually abused and non–abused adolescents at a psychiatric hospital and found that the abuse group had a higher overall drug use and used more cocaine, stimulants, and alcohol than the non abuse group. Dembo, Dertke, La Voie, Borders, Washburn and Schmeidlers (1987) found that maltreated females at a juvenile detention center had a greater frequency of illicit drug use than the males in the detention center. These findings support other studies that suggest maltreatment increases the likelihood that an adolescent will become chemically addicted.

Taken as a whole, the results of these studies indicate that a high percentage of adolescents in chemical dependency treatment programs have been physically or sexually abused, that there are significant differences between abused and non–abused chemically dependent adolescents in amount of drug use, and that childhood abuse may increase the risk for later drug use.

Psychological Health

The final area in which maltreated and/or substance–abusing adolescents differ from their peers is psychological health. Several studies have shown that people who have survived maltreatment or are drug–addicted suffer from psychological problems including

dissociation, psychic numbing, paranoia, phobias, disorientation, neuroticism, thought disorders, and persecutory ideation (Fromuth & Burkhart, 1989; Tsai, Feldman–Summers, & Edgar, 1979; Weisman, Anglin, & Fisher, 1989) In a study of the long–term psychological correlates of childhood sexual abuse among college–age men, Fromuth and Burkhart (1989) found that males who reported sexual abuse in childhood had significantly higher scores on the Hostility, Interpersonal Sensitivity, Obsessive–Compulsive, Paranoid Ideation and Psychoticism scales of the SCL–90.

Gelinas (1983) suggested that typical psychological characteristics of survivors of physical or sexual abuse include psychological paralysis, cognitive impairment, and dissociation. Gelinas cautioned that, left untreated, the pattern of intrusive memories and vivid flashbacks followed by psychic numbing and dissociation can lead to a variety of phobias, chronic heightened anxiety, and inability to function in a normal capacity.

Studies of substance–abusing populations have revealed that the psychological profile of adolescents who abuse drugs is distinctly different from those who experiment with but do not become addicted to drugs. In a 15 year longitudinal study, Shedler and Block (1990) discovered that adolescents who are addicted to drugs are characterized by a psychological triad including alienation, impulsivity, and distress. In another study, Edwall et al., (1989) reported that adolescent girls in a chemical dependency treatment center who had been sexually abused suffered from severe psychological distress that substantially disrupted their functioning. In a study of 2,785 adolescents in health clinics, Stiffman et al. (1987), found that two–thirds of the drug–abusing adolescents had a relative with a mental health problem, and drug–abusing adolescents were more than twice as likely as low users to have symptoms of anxiety disorder, post traumatic stress disorder, antisocial disorder, or conduct disorder.

The MMPI

The Minnesota Multiphasic Personality Inventory (MMPI) has been used to assess the psychological health of both maltreated and substance–abusing populations. Tsai et al. (1979) used the MMPI in a comparison of women who reported childhood molestation with those who had not been molested. They found that the women who had survived childhood abuse scored significantly higher on the Hypochondriasis (Hs), Depression (D), Psychopathic Deviate (Pd), Paranoia (Pa), Psychasthenia (Pt), Schizophrenia (Sc), and Social Introversion (Si) scales than women who had not been molested. This finding suggests that individuals who have experienced maltreatment are at significant risk for life–long psychological disturbance.

In the last decade, researchers and clinicians have begun to recognize that many of the psychological symptoms found in war veterans are also present in survivors of maltreatment. The term used by the Diagnostic and Statistical Manual of Mental Disorders (3rd ed. DSM–III; American Psychiatric Association, 1980) to describe individuals who exhibit psychological distress as a result of living through severely traumatic situations is Post Traumatic Stress Disorder (PTSD). The MMPI has been used to diagnose individuals suffering from PTSD, and to distinguish them from those suffering from other types of psychosis. Characteristic symptoms of PTSD include recurrent painful, intrusive recollections of the traumatic event, nightmares in which the event is re–experienced, psychic numbing or emotional amnesia, physical sensations, and auditory hallucinations. Associated features include depression, emotional lability, anxiety, and irritability interspersed with unpredictable explosions of rage (DSM III, 1980).

In a recent study, McCormack, Patterson, Ohlde, Garfield, and Schauer (1990) administered the MMPI to a group of Vietnam combat and non combat veterans. Some of the veterans were suffering from PTSD, and some were not. Their results showed that the veterans suffering from PTSD had significantly higher scores on the Depression (D),

Hysteria (Hy), Psychopathic Deviate (Pd), Paranoia (Pa), Psychasthenia (Pt), Schizophrenia (Sc), Hypomania (Ma), and Social Intro/Extroversion (Si) scales. These results indicated that individuals suffering from PTSD are more prone to psychotic thinking, flashback episodes, and neurotic reactions than veterans who do not suffer from PTSD. They are likely to experience high levels of anxiety, and to engage in psychic numbing to avoid intrusive memories.

The MMPI has also been used to develop a profile of substance–abusing populations. Weisman, Anglin, and Fisher (1989) administered the MMPI to 240 male addicts in a California drug treatment program. Their results indicated that Anglo addicts had significantly higher scores on the Paranoia (Pa) and Schizophrenia (Sc) scales. These are two of the three scales typically referred to as "the psychotic triad." The authors classified these subjects as "schizoid psychopaths" and reported that they were more likely to report bizarre sensory experiences, persecutory ideation, and other signs of thought disorder than other patients. This finding suggests that there are distinct psychological differences within the substance abuse population. The MMPI can be used to group substance abusers according to their psychological profiles, thus enabling clinicians to provide treatment better suited to each group.

Gender differences

In a review of over 70 studies using the MMPI to explore psychological characteristics of adult and adolescent substance abusers, Greene and Garvin (1988) reported that adolescent males most frequently have elevated scores on the Psychopathic Deviate (Pd), Schizophrenia (Sc), and Hypomania (Ma) scales of the MMPI. Few studies have focused on groups other than white male substance abusers. Psychological profiles of adolescent females, and non–white substance–abusing populations remain to be formulated.

RESEARCH QUESTIONS

This research examines whether maltreated and nonmaltreated chemically dependent adolescents differ in terms of emotional adjustment (Hypochondriasis, Depression, Hysteria, suicide attempts), psychological adjustment (Paranoia, Schizophrenia, Psychasthenia), and behavioral adjustment (arrests, drug–related arrests, runaway behavior, times in a juvenile detention center, overall drug and alcohol use, Psychopathic Deviate, Hypomania).

It is predicted that maltreated adolescents in the drug treatment program will show greater maladjustment in all three areas in comparison to nonmaltreated adolescents. It is also predicted that maltreated females will show the highest levels of emotional and psychological maladjustment and that maltreated males will show the highest levels of behavioral maladjustment.

METHODS

Subjects

The subjects consisted of 522 patients in an adolescent substance abuse treatment program in a northwestern US. city of about 100,000 between 1981 and 1988. Two hundred and twenty of the subjects were female, and 302 were male. The population was fairly homogeneous, with ninety percent from middle class families, and the remaining ten percent from both lower and upper class families. The sample was predominantly Caucasian. The average age of the females at the time of admittance was 15.6 years, and the average age of males was 16.08 years. Maltreatment was self-reported during an intake interview by forty–three percent (95) of the females, and seventeen percent (51) of the males.

Procedure

Data were collected over a seven year period, from 1981 through 1988, from intake interviews with the adolescents at the time of admittance. All patients took the Minnesota Multiphasic Personality Inventory (MMPI) at the time of admittance to the program. The intake interview included questions about the patient's drug history, family history, and medical history. This information was used by the staff to develop a profile of each adolescent's drug use and family history to be used in treatment.

Instruments

Interview

The interview consisted of 9 pages of questions covering 6 areas. These areas are drug use, negative consequences of drug use, motivation to seek treatment, environmental support for abstinence, prior treatment, family history of drug use, and medical history. Patient's responses to questions concerning drug use, negative consequences of drug use, and history of maltreatment were used. For this study, maltreatment refers to either sexual or physical abuse. No distinction was made between abuse by a family or a non family member.

MMPI

The Minnesota Multiphasic Personality Inventory (MMPI) is the most frequently used and widely researched objective personality test available (Koss, 1979). First developed in 1940 by Hathaway and McKinley, it provides an objective, empirically sound means of assessing abnormal human behavior. The MMPI consists of 550 statements written in the first person singular and phrased in the affirmative. The subject codes each statement as "true," "false," or "cannot say." Examples of statements include "I frequently find myself worrying about something" and "I enjoy many different kinds of play and recreation."

Hathaway and Mckinley developed a series of 10 clinical scales using a criterion group of "healthy" answers as the norm for comparison (Greene, 1980). These scales are: Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Masculinity–Femininity, Paranoia, Psychasthenia, Schizophrenia, Hypomania, and Social Intro/Extroversion. Hunsley, Hanson and Parker (1988) analyzed the reliability and stability of these scales using samples of scores from 1970–1981 (Greene, 1980). They found moderately high levels of reliability (.71–.84) and stability (.63–.86). In this study, eight of the ten scales

are used. The following is a brief description of each scale used in this study. An example of one item from each scale is included (Greene 1980 pp. 70–113).

Hypochondriasis (Hs) : Subjects report numerous somatic complaints for which no organic basis can be found. Their ailments include: difficulty with breathing, digestion, vision, thinking, and sleeping.

"I have a great deal of stomach trouble." (true)

Depression (D) : Indicates general apathy, lack of hope in the future, poor morale, and dissatisfaction with one's own status.

"I usually feel that life is worthwhile." (false)

Hysteria (Hy) : Measures the correlation between items reflecting somatic complaints with no known medical origin and items showing that the subject feels well socialized and adjusted.

"Much of the time my head seems to hurt all over." (true)

Psychopathic Deviate (Pd) : Indicates social maladjustment and minor delinquency problems such as stealing, habitual lying, etc.

"In school I was sometimes sent to the principal for cutting up." (true)

Paranoia (Pa): Measures paranoid thinking including feelings of persecution, delusions, grandiosity, suspiciousness, undue interpersonal sensitivity, hostility, and egotism.

"I often feel that I am being watched." (true)

Psychasthenia (Pt): Measures compulsive behavior, obsessive ideas, and phobic fears. Also measures self–critical and self–debasing thoughts and attitudes.

"I have a habit of counting things that are not important such as bulbs on electric signs, and so forth." (true)

Schizophrenia (Sc): Measures bizarre or unusual thoughts or behavior, including feelings of social alienation, isolation, persecution, and peculiarities of perception. Also contains items that measure family relationships, fears and worries, sexual problems, impulsivity, and apathy.

"Once in a while I feel hate toward members of my family whom I usually love," (true)

Hypomania (Ma): Primarily measures a subject's activity or energy level. High scores indicate excitement, impulsivity, grandiosity, hyperactivity, and talkativeness.

"I have never done anything dangerous for the thrill of it." (false)

Analysis

The data was analyzed using t–tests. Three sets of t–tests were conducted: a comparison of all maltreated and nonmaltreated adolescents, a comparison of maltreated and nonmaltreated females, and a comparison of maltreated and nonmaltreated males.

RESULTS

Comparisons of maltreated and nonmaltreated adolescents in the drug treatment center revealed numerous significant differences between the two groups. Maltreated adolescents reported more runaway behavior, more overall arrests and drug-related arrests, more suicide attempts, greater overall drug and alcohol use, and more time spent in juvenile detention centers than nonmaltreated adolescents (see table 1). Comparisons of MMPI scores revealed significant differences between maltreated and nonmaltreated adolescents in eight of the ten clinical scales (table 2). Maltreated adolescents scored significantly higher than their peers on the Hypochondriasis, Depression, Hysteria, Psychopathic Deviate, Masculinity–Femininity, Paranoia, Psychasthenia, and Schizophrenia scales. No significant differences were found between the two groups on the Social Introversion/Extroversion scale and the Hypomania scale.

Table 1. Comparison of maltreated and nonmaltreated adolescents: intake interview

Variable	Maltreated n=146		Nonmaltreated n=376		p–value
	X	SD	X	SD	
Drug Arrests	.884	2.221	.500	1.486	.02*
Arrests	1.265	2.508	.828	1.810	.03*
Runaway	2.400	5.000	1.250	2.500	.0005***
Juvenile Delinquency	.329	.830	.147	.460	.0008***
Suicide Attempts	.912	1.571	.423	1.162	.0001***
Total Drug Use	17.513	7.503	15.846	6.906	.006**

* p< .05, ** p< .01, ***p < .001

Table 2. Comparison of maltreated and nonmaltreated adolescents: MMPI scores

MMPI Scale	Maltreated n=146		Nonmaltreated n=376		p–value
	X	SD	X	SD	
Hypochondriasis	62.521	15.258	57.077	14.132	.0001***
Depression	63.972	12.612	59.971	12.133	.0009***
Hysteria	63.611	12.387	59.526	10.992	.0003***
Psychopathic Deviate	70.813	11.788	65.529	10.747	.001***
Paranoia	62.028	11.541	58.151	10.883	.0004***
Psychasthenia	62.799	13.899	58.368	12.556	.0005***
Schizophrenia	65.194	14.490	52.267	12.380	.0001***
Hypomania	64.132	11.462	63.267	9.400	NS

* p< .05, ** p< .01, ***p < .001

A comparison of maltreated and nonmaltreated females revealed numerous significant differences. Maltreated females reported significantly more runaway behavior, more suicide attempts, more time spent in juvenile detention centers and higher overall drug use than nonmaltreated females (table 3). On the MMPI, maltreated females scored significantly higher than nonmaltreated females on the Hypochondriasis, Hysteria, Psychopathic Deviate, Psychasthenia and Schizophrenia scales (see table 4).

Table 3. Comparison of maltreated and nonmaltreated female adolescents: intake interview

Variable	Maltreated n=95		Nonmaltreated n=125		p–value
	X	SD	X	SD	
Drug Arrests	.650	1.642	.463	1.531	NS
Arrests	.919	1.869	.707	1.985	NS
Runaway	2.766	5.547	1.461	2.742	.006**
Juvenile Delinquency	.363	.914	.099	.373	.0003***
Suicide Attempts	1.000	1.284	.664	1.522	.03*
Total Drug Use	17.153	6.701	15.101	6.715	.004**

Table 4. Comparison of maltreated and nonmaltreated female adolescents: MMPI scores

MMPI Scale	Maltreated n=95		Nonmaltreated n=125		p–value
	X	SD	X	SD	
Hypochondriasis	65.043	16.191	58.175	14.666	.001***
Depression	65.713	12.890	63.413	12.763	NS
Hysteria	65.543	12.946	61.762	11.160	.02*
Psychopathic Deviate	72.543	11.700	69.095	10.953	.03*
Paranoia	63.404	11.664	61.611	11.066	NS
Psychasthenia	65.638	13.925	59.897	12.583	.002**
Schizophrenia	68.830	14.862	62.714	13.838	.002**
Hypomania	66.947	10.774	65.579	8.920	NS

* p< .05, ** p< .01, ***p < .001

A comparison of maltreated and nonmaltreated males also revealed several significant differences between the two groups. Maltreated males reported significantly more time spent in juvenile detention centers, more suicide attempts, more arrests and drug–related arrests and more runaway behavior than their nonmaltreated peers (table 5). On the MMPI, maltreated males scored significantly higher on the Hypomania and Psychopathic Deviate scales than nonmaltreated males (see table 6).

Table 5. Comparison of maltreated and nonmaltreated male adolescents: intake interview

Variable	Maltreated n=51		Nonmaltreated n=251		p–value
	X	SD	X	SD	
Drug Arrests	1.320	2.835	.664	1.729	.01**
Arrests	1.831	3.075	1.014	2.021	.006***
Runaway	1.744	2.457	1.102	2.127	.02*
Juvenile Delinquency	.354	.866	.173	.513	.02*
Suicide Attempts	.915	1.824	.326	.913	.0001***
Total Drug Use	17.280	7.970	16.048	6.938	NS

* p< .05, ** p< .01, ***p < .001

Table 6. Comparison of maltreated and nonmaltreated male adolescents: MMPI scores

MMPI	Maltreated n=51		Nonmaltreated n=251		p–value
	X	SD	X	SD	
Hypochondriasis	57.780	12.112	56.528	13.854	NS
Depression	60.700	11.493	58.250	11.449	NS
Hysteria	59.980	10.442	58.409	10.757	NS
Psychopathic Deviate	67.560	11.364	63.746	10.206	.02*
Paranoia	59.440	10.955	56.421	10.387	NS
Psychasthenia					NS
Schizophrenia	58.360	10.979	57.544	11.220	NS
Hypomania	58.840	10.925	62.111	9.437	.03*

* p< .05, ** p< .01, ***p < .001

Although comparisons of males and females together indicated significant differences between maltreated and nonmaltreated adolescents on the Depression, Masculinity–Femininity, and Paranoia scales, separate analyses of males and females did not reveal significant differences on these scales.

In the area of emotional well–being, which included Hypochondriasis, Depression, Hysteria, and the number of suicide attempts, significant differences were found between maltreated and nonmaltreated adolescents in each of the four variables (see table 7). For females, significant differences were found between maltreated and nonmaltreated adolescents on the Hypochondriasis and Hysteria scales and the number of suicide attempts, while for males only the number of suicide attempts was significantly higher among maltreated patients.

Table 7. Emotional well–being: levels of significance

Variable	Maltreated vs. Nonmaltreated	Male Maltreated vs. Nonmaltreated	Female Maltreated vs. Nonmaltreated
Hypochondriasis	.0001 ***	NS	.0001 ***
Depression	.0009 ***	NS	NS
Hysteria	.0003 ***	NS	.02 *
Suicide Attempts	.0001 ***	.0001 ***	.03 *

* p< .05, ** p< .01, ***p < .001

In the area of psychological health, which consisted of the Paranoia, Schizophrenia, and Psychasthenia scales of the MMPI, significant differences were found between maltreated and nonmaltreated adolescents on all three scales (see table 8). For males, no significant differences were found between maltreated and nonmaltreated patients, while for females, significant differences were found on the Schizophrenia and Psychasthenia scales.

Table 8. Psychological health: levels of significance

Variable	Maltreated vs. Nonmaltreated	Male Maltreated vs. Nonmaltreated	Female Maltreated vs. Nonmaltreated
Paranoia	.0004 ***	NS	NS
Schizophrenia	.0001 ***	NS	.002 **
Psychasthenia	.0005 ***	NS	.002 **

* p< .05, ** p< .01, ***p < .001

In the area of delinquency, which included the Psychopathic Deviate and Hypomania scales of the MMPI, and the number of arrests and drug–related arrests, instances of runaway behavior, times in juvenile detention center, and overall drug and alcohol use, significant differences were found between maltreated and nonmaltreated

adolescents on all of the variables except Hypomania (see table 9). For males, maltreated adolescents scored significantly higher than nonmaltreated adolescents on all variables except total drug use. For females, maltreated adolescents scored significantly higher than their nonmaltreated peers on the Psychopathic Deviate scale of the MMPI, and on total drug use, times in a juvenile detention center, and instances of runaway behavior.

Table 9. Delinquency: levels of significance

Variable	Maltreated vs. Nonmaltreated	Male Maltreated vs. Nonmaltreated	Female Maltreated vs. Nonmaltreated
Psychopathic Deviate	.0001 ***	.02 *	.03 *
Hypomania	NS	.03 *	NS
Number of Arrests	.03 *	.006 **	NS
Drug-Related Arrests	.02 *	.01 **	NS
Runaway	.0005 ***	.02 *	.006 **
Juvenile Delinquency	.0008 ***	.02 *	.003 ***
Total Drug Use	.006 **	NS	.004 **

* $p < .05$, ** $p < .01$, *** $p < .001$

DISCUSSION

The overall picture that emerges from these data is that maltreated adolescents enter drug treatment programs with substantially more psychological, emotional, and delinquency problems than their nonmaltreated peers. In each of the three areas examined, emotional well–being, psychological health, and delinquency, significant differences were found between maltreated and nonmaltreated adolescents. A second and perhaps more important finding is that the differences between the maltreated and nonmaltreated groups were accounted for primarily by differences between maltreated and nonmaltreated females. Not only are drug–addicted females more likely to have a history of maltreatment, they also appear to be more negatively affected by it than males. Of all the adolescents in the program, maltreated females demonstrated the highest levels of emotional distress and psychological problems. A possible alternative explanation is that there were differences in the type or severity of maltreatment reported by males and females. Data that give insight into this possibility were not collected .

In the area of emotional well–being, which consisted of the Hypochondriasis (Hs), Depression (D), and Hysteria (Hy) scales of the MMPI, and the number of self–reported suicide attempts, the differences between maltreated and nonmaltreated adolescents were significant. On two of the three MMPI scales, Hypochondriasis and Hysteria, the differences between the maltreated and nonmaltreated groups were significant for females, but not for males, indicating that maltreated females in the program experience physical ailments such as difficulty with breathing, digestion, vision, thinking, and sleeping that have no physiological basis. These scales also identify subjects who are prone to panic and anxiety attacks, but feel a need to deny any problems and present a well–adjusted superficial appearance. For males, differences between maltreated and nonmaltreated subjects on these three scales were not significant.

Based on these elevated MMPI scores we can speculate that maltreated females may have initially turned to drugs to find relief from their physical ailments. It is possible that, after suffering from symptoms such as stomach aches, dizziness, difficulty with sleeping, and panic attacks, and having their complaints unsubstantiated by the medical profession, they began using drugs to escape from their discomfort, and subsequently became addicted. If this is the case, then clinicians in drug treatment programs need to be aware that for maltreated females, part of their resistance to living without drugs comes from a fear of living again with these ailments. This fear sets them apart from other adolescents who have not been maltreated and have not lived with this type of physical discomfort.

The area of delinquency consisted of the Psychopathic Deviate and Hypomania scales of the MMPI, the number of arrests and drug–related arrests, instances of runaway behavior, times in juvenile detention center, and overall drug and alcohol use. The scores of maltreated adolescents were significantly higher on all measures except the Hypomania scale, indicating that adolescents who have been maltreated are more likely to have been in trouble with the law than adolescents who have not experienced maltreatment. Contrary to previous studies that have found males to engage in more delinquent behavior than females, the results of this study show that drug–addicted maltreated females are just as likely as drug–addicted males to have spent time in a juvenile detention center and to have run away from home. Furthermore, while the total drug score for maltreated females was significantly higher than for nonmaltreated females, the difference between maltreated and nonmaltreated males was not significant. The only areas of delinquent behavior in which significant differences were found for maltreated males, but not females, were arrests and drug–related arrests.

These results show that both males and females in drug treatment centers who have survived maltreatment have a history of trouble with the law, school officials, and other authority figures. One possible interpretation of this finding is that these adolescents

recognized that something was askew in their home life, and began acting out in an attempt to draw attention to their family situation. From this perspective, drug use and other delinquent behavior can be seen as a cry for help, rather than an indication of a deviant personality. Counselors and others working in drug treatment facilities need to investigate the underlying purpose that the adolescent's drug use may have served in eliciting much needed help for the family. They should consider the possibility that, although the adolescent is the identified patient, the entire family may be in need of help.

In the area of psychological health, which consisted of the Paranoia (Pa), Schizophrenia (Sc), and Psychasthenia (Pt) scales of the MMPI, maltreated adolescents again demonstrated significantly higher levels of distress than others in the program. On two of the three scales, Schizophrenia and Psychasthenia, the differences between the maltreated and nonmaltreated groups were significant for females, but not for males. This finding shows that maltreated females entering the drug treatment program are more likely to be filled with anxiety and dread, are more likely to have obsessive or bizarre thoughts, phobic fears, self–debasing thoughts and attitudes, and to engage in compulsive behavior than the rest of the females or any of the males. Maltreated females also are more prone to feelings of social alienation, isolation, and persecution than the rest of the adolescents in the program. As in the area of emotional well–being, maltreatment appears to be more predictive of psychological problems for females than for males.

The results of the psychological component of this study have important implications for clinicians working with females in drug treatment programs. Because females enter the program with a substantially different psychological profile than males, their healing process will be different than that of their male peers. For females, an integral part of their recovery from chemical addiction will be to explore their feelings of alienation, anxiety, and self–derision that are inextricably tied up with their history of

maltreatment. Until the impact of their maltreatment on their feelings about themselves is addressed and resolved, attempts to halt the pattern of drug use will be only temporary.

In sum, the results of this study show that maltreated adolescents in drug treatment programs have substantially more problems than nonmaltreated patients. In particular, maltreated females enter the program with a wide range of emotional, behavioral, cognitive, and psychological problems that place them at great risk for doing damage to themselves and others. This supports other substance abuse studies that have found that female substance abusers tend to be more depressed, to feel more powerless, and to engage in more self–destructive behavior than males (Carmen et al., 1984; Curlee, 1970). For males, maltreatment appears to be associated more with delinquent behavior than with emotional or psychological health.

Based on these findings, several recommendations for treatment are presented. First, due to its negative associations, victims of abuse are often reluctant to disclose maltreatment in their past. Counselors in drug treatment programs need to be aware of the likelihood of physical or sexual abuse in the history of drug–addicted adolescents, especially in the history of female patients. Questions concerning maltreatment should be a standard part of intake interviews, and should be repeated after the adolescent becomes more comfortable in the setting and is more likely to disclose abuse.

Second, clinicians need to be aware that maltreatment increases the likelihood of suicidal ideation and attempts, and other self–destructive behaviors such as head banging, wrist slashing, and self–mutilation. Adolescents who have been maltreated need to be closely monitored to make sure they do not harm themselves.

Third, patients who have survived maltreatment need individual and group therapy sessions to address the effects of their abuse on their self–esteem and relationships. These sessions are particularly important for maltreated females whose ability to trust, feelings of self–worth, and interpersonal skills have been damaged by their abuse. Family therapy sessions aimed at bringing the abuse out into the open, evaluating its

effect on family functioning, supporting the victim, and eliminating self blame should also be an integral part of treatment.

Finally, clinicians in drug treatment programs need to be aware that the underlying causes of drug abuse among maltreated adolescents may be different than among nonmaltreated adolescents. There is evidence that dissociation and psychic numbing are two of the most frequent psychological responses to childhood maltreatment (Gil, 1991). Children who are regularly subjected to extreme stressors such as sexual or physical abuse learn to defend themselves by removing themselves mentally from the stressful situation. One eight year old girl who was repeatedly molested by her stepfather said, "I would look up at the crack on the wall, and put myself inside it. I wasn't on my bed with him anymore, I was inside the wall. I could look down on myself without feeling anything." Over time, such dissociation becomes a habitual response not only to maltreatment, but also to other situations an individual finds stressful.

For adolescents who have experienced maltreatment and regularly engage in psychic numbing and dissociation, the use of drugs becomes a logical means of mentally removing themselves from any situation they find distressing. A coping response that was begun in order to escape maltreatment becomes generalized to include every situation in which the individual feels upset, angry, or afraid. It is important to keep in mind that drug use for these adolescents serves a drastically different function than for those who use drugs to achieve a temporary high.

Clinicians in treatment programs need to address not only the use of drugs, but also the different functions that drug use serves in the lives of maltreated and nonmaltreated adolescents. Just as maltreated adolescents have traveled a different pathway to drug addiction than other adolescents, so too will their road to recovery be different. If counselors in drug treatment programs halt the use of drugs, but ignore the underlying causes of drug use, the success of their program will be short–lived.

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