1998

Attention Deficit Disorder and Alcoholism

Jane A. Leonhardt

ATTENTION DEFICIT DISORDER AND ALCOHOLISM

Jane A. Leonhardt

An Abstract Presented to the Faculty of the Graduate School of Lindenwood College in Partial Fulfillment of the Requirements for the Degree of Master of Art.

1998

Abstract

The study explored the relationship between alcoholism and attention deficit disorder (ADD). The Brown ADD Scale was given to 24 graduate students and 23 recovering alcoholics. Total Scores for the Brown ADD Scale were reported for both groups as well as scores for each of the five clusters: Activation, Attention, Effort, Affect, and Memory. The recovering alcoholics reported more ADD-like behaviors than did the graduate students.

ATTENTION DEFICIT DISORDER AND ALCOHOLISM

Jane A. Leonhardt

A Culminating Project Presented to the Faculty of the Graduate School
of Lindenwood College in Partial Fulfillment
of the Requirements for the
Degree of Master of Art.

1998

Committe in Charge of Candidacy

Pamela Nickels, Ed. D.
Associate Professor, Chairperson

Marilyn Patterson, Ed. D.
Associate Professor

Rebecca McKenna, Ph. D.
Adjunct Professor

Dedication

To my dear son, John, whose love shall remain with me forever.

Table of Contents

CHAPTER 1

INTRODUCTION

Attention Deficit Disorder (ADD) is a neurological syndrome that has received widespread attention. It is estimated that about 15 million Americans experience some form of ADD today (Hallowell & Ratey, 1994). In addition, approximately five percent of school-age children have ADD (Hallowell & Ratey). Approximately 10 percent of boys and 3 percent of girls aged 4 to 11 are affected by this disorder (Pihl & Peterson, 1991). The problem has attracted numerous research studies exploring causes, means of assessment, treatment, and future implications, including the potential for substance abuse problems.

Attention Deficit Disorder is a chronic and pervasive neurologically based condition, common to children, adolescents, and adults (Hallowell & Ratey, 1994). ADD is usually identified in early childhood or during elementary school years and may persist into adulthood. Individuals with ADD may experience difficulty sustaining attention, planning and organizing, controlling impulses and physical activity, attending to detail, and being aware of their own actions. People with ADD may display poor motivation, poor task persistence, and disorganization when they engage in activities that require sustained attention.

It is essential that the disorder be diagnosed as early as possible so as to minimize the damage to self-esteem that usually occurs when these children are misunderstood and labeled lazy, defiant, odd, or bad. The life of a child, as well as the family, with undiagnosed ADD is often a life full of unnecessary struggle,

accusation, guilt, underachievement, and sadness (Hallowell & Ratey, 1994). Even with an early diagnosis, medication, and/or counseling, the psychological effects can be long lasting. The damage done to a child's developing self-confidence can be seriously eroded by the negative messages the child receives from peers and adults.

ADD was once considered to be a disorder of childhood alone, and which was outgrew it during adolescence. Recent research studies now indicate that the symptoms often persist into adulthood (Mannuzza, Klein, Bessler, Malloy & LaPadula, 1993). Hallowell & Ratey (1994) noted that about a third of the ADD population outgrow it while two-thirds experience the disorder throughout adulthood. Attention deficit disorder can be just as vexing for adults as it can be for children. It is estimated that over 10 million adults are affected by ADD (Hallowell & Ratey). As adults, they may have experienced numerous failed relationships. Their professional lives may have been characterized by a sense of underachievement. They typically have difficulty getting organized and completing projects on time. Life for people with attentional deficits may consist of a series of uncompleted tasks (Miller & Blum, 1996). According to Hallowell and Ratey (1994), many of these adults have a tendency toward addiction and have a family history of substance abuse.

Purpose

This study focused specifically on Attention Deficit Disorder and alcoholism. The purpose of this study was to investigate the relationship between

Attention Deficit Disorder and alcoholism. The following question was posed: Is there a higher incidence of ADD among alcoholics than among those not suffering from addictions? In order to address this question, the following null hypothesis was formulated:

There is no significant mean score difference on the Brown ADD scale between alcoholics and non-alcoholics.

CHAPTER II

REVIEW OF THE LITERATURE

Addiction and Alcoholism

The definitions of alcoholism are many and varied. Alcoholics Anonymous (1976) described alcoholism as a disease in which there is "an allergy of the body coupled with an obsession of the mind". The World Health Organization (cited in Brown & Yalom, 1995) noted that "alcoholism may be characterized as a chronic behavioral disorder manifested by repeated drinking of alcoholic beverages in excess of dietary and social uses of the community and to the extent that interferes with the drinker's health or social and economic functioning " (p. 57). Bradshaw (1993) presented a model that sees addiction as a process used to "take away" intolerable reality.

The American Medical Association labeled alcoholism a disease in 1956 and thus began the "disease concept" of alcoholism which acknowledges a loss of control. The idea that alcoholism is a disease arose, in part, from the results of a survey of AA members conducted by Jellinek (1960). Jellinek's now famous "Jellinek Chart" (see Appendix A) is an inverted bell curve illustrating the stages of progression and recovery of alcoholism (cited in George, 1990). Jellinek's research suggested that there are distinctive signs and symptoms, as well as a progressive course of development, of the disease of alcoholism. Jellinek proposed five types of alcoholism: alpha, beta, gamma, delta, and epsilon (Babor, 1996). Jellinek only considered two of the types , gamma and delta, to exhibit

sufficient evidence of alcohol dependence to represent true disease entities.

George (1990) reported that in the early stages of the disease, the individual may drink to get relief from something: physical pain, emotional pain, or money worries. In the middle stages, the classic symptoms (i.e., absenteeism from work, poor job performance, financial problems, family problems, changes in moral or ethical behavior) make the disease fairly visible and detectable. In the final and chronic stage of the disease, there are obvious signs of physical deterioration, a decrease in alcohol tolerance, and impaired thinking.

The National Council on Alcoholism and Drug Dependence (1990) defined alcoholism as a primary, chronic disease with genetic, psychosocial, and environmental factors influencing its development and manifestations. The disease is characterized by continuous or periodic impaired control over drinking, preoccupation with alcohol, use of alcohol despite adverse consequences, and a distortion in thinking, most notably denial. Chelton and Bonney (1987) described the addiction process in the following manner:

> Individuals with an addiction use a certain behavior pattern or activity that has become socially, physically, or psychologically harmful to them, and they use it repeatedly and persistently. They seem unable to cease the behavior no matter what the risk or cost to them or others. They feel desperately in need of the activity and cling to it in an increasingly pathological way. Attempts to interfere with the addiction are frequently met by intense feelings of helplessness, and reactions of withdrawal, denial,

and rage. (p.40)

The alcoholic is trapped in a cycle of seeking a mood altering drug which no longer produces the same effect it once did. This "high" is pursued, however, despite detrimental and self destructive consequences. The above definitions all share the common elements of loss of control and increased tolerance.

Throughout history, alcoholism has been thought to be the result of poor moral fiber or lack of willpower. Recent research has challenged this theory. Etiological factors in alcoholism have suggested that conditions predisposing to poor self-esteem and low ego strength are prevalent in the personal and family histories of alcoholics (Barnes, 1979).

One of the first studies to report a genetic basis for alcoholism was conducted by Schuckit, Goodwin, and Winokur (1972). The study found that adopted children whose biological parents were alcoholics were more likely to have a drinking problem than those born to nonalcoholic parents. In 1979 Goodwin studied men in Denmark who had been adopted in early childhood. He reported that the sons born to alcoholic fathers were three times more likely to become alcoholic than the sons of nonalcoholic fathers.

Blum, Cull, Braverman, and Comings (1996) proposed that addiction and other compulsive or impulsive disorders, including attention-deficit disorder, were associated with a complex process involving what they called "reward deficiency syndrome." Nash (1997) reported that all mood-altering drugs are able to elevate levels of dopamine. Dopamine, a neurotransmitter, is associated with pleasure and

elation. When an individual engages in a pleasurable activity, the brain triggers the production of additional quantities of dopamine resulting in feelings of pleasure and satisfaction. Blum et al. (1996) proposed that an inborn chemical imbalance could alter the intercellular signaling in the brain's reward process. The feeling of well being is supplanted with anxiety, anger, or a craving for a substance that could alleviate the negative emotions. This chemical imbalance manifests itself as a behavioral disorder that Blum et al. referred to as "reward deficiency syndrome."

In an earlier study (Blum et al., 1990), the association between the dopamine D2 receptor gene in alcoholism was reported. The study found that the presence of the dopamine D2 receptor gene correctly classified 77% of alcoholics and its absence correctly classified 72% of nonalcoholics. Goodwin (1985) suggested that children of alcoholics may be deficient in serotonin or may have an increased level of serotonin in the presence of alcohol. The addictive cycle - a pattern in which a person initially drinks to feel good, and then later has to resume drinking after an abstinence period in order to stop feeling bad - may result from such a problem with serotonin (Goodwin, 1985).

Support for the theory of genetic predisposition to alcoholism was reported by Schuckit and Rayses (1979). They maintained that alcoholism appears to be a genetically influenced disorder. In that study, blood acetaldehyde concentrations were significantly elevated after a moderate ethanol dose in young men with alcoholic parents or siblings compared to controls with no familial alcoholism. Later studies supported these findings suggesting that alcoholics with family

histories of alcoholism experienced an earlier onset of dependence symptoms, a rapid course of symptom development, and more severe alcohol dependence than alcoholics with negative family histories (Babor, 1996).

Researchers have used the twin method in several studies to support genetic predisposition to alcoholism. Goodwin (1979) studied children that had been adopted in Denmark. He reported that children of alcoholics are more vulnerable to alcoholism whether they were raised by their alcoholic parents or by a nonalcoholic foster parents. Furthermore, Goodwin noted that large numbers of people are more or less protected from becoming alcoholic because of genetically determined adverse physical reactions to alcohol (i.e., cutaneous flush found among Orientals). Pickens et al. (1991) studied 169 same-sex pairs of twins, both males and females, and found that there was a greater concordance of alcohol dependence in identical twins than in fraternal twins. Partanen, Bruun, and Markkanen (cited in "The Genetics of Alcoholism", 1992) found that less severe drinking patterns were less heritable while more severe drinking patterns were more heritable.

Others have suggested that simple genetics is too simplistic. Peele (1986) noted that genetic theories "make little sense out of the enormous differences in alcoholism rates between social groups - like the Irish and the Jews - at opposite ends of the continuum in incidences of alcoholism. Peele maintained that biological findings about the offspring of alcoholics have been inconsistent. Other researchers have argued that what is inherited is a mix of personality traits rather

than alcoholism itself (Schuckit, 1987). Most scientists think addiction probably involves a complex assortment of factors including environmental influences as well as multiple genes (Nash, 1997).

Alcoholism, because of its very nature, can be difficult to measure. Many alcoholics often go to great lengths to hide their abuse making it almost impossible to determine an exact number of those affected by the problem. Woititz (1990) estimated that there may be over ten million alcoholics in the United States. A study conducted in 1994 (Grant et al.) reported that more than 13.8 million Americans ages 18 or older had problems with alcohol, including 8.1 million people who were alcoholic. Brown and Yalom (1995) suggested that fourteen percent of Americans age eighteen and over meet the criteria for alcohol dependence. Johnston's study (cited in Jenson, Howard, & Yaffe, 1995) indicated that alcohol and drug use are more prevalent among Native Americans and Causcasians than among African Americans, Hispanics, or Asian Americans.

Adolescent Alcoholism

Alcoholism affects adolescents as well as adults. The growing substance abuse problem among adolescents is a problem of concern for the American public (University of Michigan, 1996). Substance abuse among American high school seniors and college students is the highest in the industrialized world (Kaminer, 1991). Alcohol use is more prevalent and frequent among high school seniors than among lower classmen (Bukstein, 1995). The National Institute of Alcohol Abuse and Alcoholism defined problem drinking by adolescents as drinking to the point of

being drunk six or more time a year (cited in Kaminer, 1991). The results of "Youth and Alcohol: A National Survey" (1991) indicated that the average student who drinks is a 16-year-old 10th grader. The survey reported that more than 5 million students have binged, 3 million within the last month, and that 454,000 binge at least once a week. Johnston's study (cited in Kaminer, 1991) of high school seniors regarding the grade in which they first used substances revealed that 8.4% reported first use of alcohol, 2.8% first use of marijuana, and 0.2% first use of cocaine in the sixth grade. Furthermore, 92% of high school seniors reported having used alcohol; 66% were current users, 5% were daily drinkers, and 37.5% reported at least one occasion of heavy drinking.

The standard clinical diagnostic criteria for substance abuse and dependence found in the Diagnostic and Statistical Manual - IV were developed for use with adults, and may not fully relate to adolescents. To be defined as Substance Abuse, the pattern of substance use occurring during a 12-month period must lead to "clinically significant impairment or distress" in at least one of four primary areas: (1) job, school, or home; (2) physically hazardous; (3) legal; or (4) interpersonal (DSM - IV, 1994).

There are several areas of difference between adults and adolescents that become diagnostic issues under the DSM - IV criteria. Consequences for adults and adolescents differ markedly in many respects. Adolescents are dependent, and are thus less likely to experience meaningful consequences. They also tend to have more enablers (Schaefer, 1987). Additionally, adolescents do not tend to exhibit

symptoms of tolerance and withdrawal in the same ways as adults. Clear withdrawal symptoms may appear only after several years of abuse. Alcohol withdrawal symptoms may require 6 - 8 years of drinking (Segal & Stewart, 1996).

Adults tend to drink for external reasons: problems at work, trouble with their spouse, the occasion (Schaefer, 1987). Young people tend to drink for more internal reasons: experimentation, to have a good time, to relieve boredom, tension, or anxiety, to cheer up, and to get away from problems (Segal & Stewart, 1996).

Adolescent substance abusers are involved in problem behavior at an early age. Children who are irritable, have temper tantrums, and fight often with siblings are more likely to use drugs in adolescence (Jenson, Howard, & Yaffe, 1995). Cloninger (cited in Teen Substance Abuse, 1997) suggested that by age six children show signs that they will be using alcohol, drugs, and cigarettes as young teenagers. Cloninger maintained that early-onset alcoholism is linked to three personality characteristics: high novelty-seeking, low harm avoidance, and reward dependence. Alcoholism tends to run in families and there also seems to be a close association between alcoholism and other psychiatric illness (Steiner & Yalom, 1996).

Attention Deficit Disorder

Everyone occasionally has difficulty staying still, sustaining attention, and stifling inconvenient impulses. For some people, however, the problem is so persistent and serious, and it interferes so constantly with work, friendships, and

family life, that it is regarded as a psychiatric disorder. Formerly known as hyperkinesis, hyperactivity, minimal brain damage, and minimal brain dysfunction, attention deficit disorder (ADD) received its present name and description in the late 1970s (Pihl & Peterson, 1991). The disorder may occur with or without the hyperactive component. Fargason and Ford (1994) proposed that ADHD encompasses two separate syndromes ADD/+H and ADD/-H. It is now the most commonly diagnosed childhood psychiatric condition, affecting about 3% of American children (McCarney & Baner, 1990). Attention deficit hyperactivity disorder is one of the most common sources of referrals to family physicians, pediatricians, pediatric neurologists, and child psychiatrists (Biederman, Newcorn, & Sprich, 1991).

The problem is not, strictly speaking, a deficit of attention so much as a lack of consistent direction and control. Children with ADD are easily distracted and often seem to be daydreaming. They often do not finish what they start and repeatedly make what appear to be careless mistakes. They frequently switch haphazardly from one activity to another. Arriving on time, obeying instructions, and following rules are often difficult for them (Hallowell and Ratey, 1994).

Individuals with attention deficits usually have difficulty interacting socially and trouble understanding how their behavior affects others. As a result, they may have few friends. Emotional outbursts, mood swings, temper tantrums, immaturity, and low frustration tolerance may be evident. In addition to their ADD symptoms, some individuals also may have learning disabilities or conduct

problems (Biederman, Newcorn, & Sprich, 1991; Mannuzza, Klein, Bessler, Malloy, & LaPadula, 1993).

Although ADD begins in childhood, researchers have shown that it is also a disorder of adolescents and adults (Baren, 1989; Barkley, Fisher, Edelbrock, & Smallish, 1990; Gittelman, Mannuzza, Shenker, & Bonagura, 1985; Gregory & Pinkowish, 1995; Hechtman, 1991; Klein & Mannuzza, 1991; Schaffer, 1994). The old belief that the symptoms always faded with age now seems to have been an illusion perhaps because physical hyperactivity, often the most obvious sign, does subside with age (Fargason & Ford, 1994; Hallowell & Ratey, 1994). It is estimated that between 30 and 50% of children diagnosed with ADD will continue to be impaired by their symptoms in adolescence (Barkley et al., 1990). Between two and five million adults, as well, may suffer from Attention Deficit Disorder (Gregory & Pinkowish, 1995).

There tends to be a marked reduction in functional problems for those with ADD between the ages of 13 to 18 (Gittelman, Mannuzza, Shenker, & Bonagura, 1985). That is not to say, however, that as adolescents they do not experience problems related to the Attention Deficit diagnosis. Hechtman (1991) noted that hyperactive adolescents had lower self-esteem and more academic problems. The Hechtman study reported 25% of the ADD adolescents demonstrated significant delinquent behavior and most continued to be "distractible, impulsive, and emotionally immature, although less hyperactive" (p. 415). Gittelman et al. (1985) reported that 31% of the probands, as opposed to 3% of the controls, had

symptoms of Attention Deficit Disorder with hyperactivity that persisted into late adolescence. Hechtman reported that 70% to 80% of those diagnosed with ADD in childhood continued to have significant problems in adolescence.

It has only been recently that researchers have begun to examine the implications of Attention Deficit Disorder for adult populations. Previously it was thought that ADD symptoms resolved in adolescence after brain development reached a certain point or when hormonal or other developmental changes occurred. Studies since, however, have documented that many children with ADD continue to have symptoms in adulthood (Gregory & Pinkowish, 1995). Adults with ADD are often said to be impatient, restless, moody, insecure, and easily bored. They have trouble setting priorities, managing their time, meeting appointments, and keeping track of possessions (Gregory & Pinkowish, 1995; Hallowell & Ratey, 1994; Weiss & Hechtman, 1986). They have brief, stormy love affairs, change jobs often, and fail to fulfill what they and others regard as their potential (Miller & Blum, 1996). Adults with ADD often have career difficulties (Gregory & Pinkowish). They may lose jobs due to poor performance, attention and organizational problems, or interpersonal difficulties (Fargason & Ford, 1994). Perhaps more than half suffer from an anxiety disorder, conduct disorder, or mild depression (Biederman et al., 1991). A substantial minority of children with ADHD - perhaps 30 - 50% - will continue to have serious problems with ADHD as adults (Biederman et al., 1995)

Identifying adults with ADD can be problematic. The diagnosis of adult

ADD is based primarily on history. Making an accurate diagnosis of ADD in an adult depends on documenting that its symptoms were present during childhood (Gregory & Pinkowish, 1995; Hallowell & Ratey, 1994). Gathering as much information from early childhood and elementary school years can prove to be immensely helpful in making an accurate diagnosis (Hallowell & Ratey, 1994; Nahlik, 1996). "Report card, parental descriptions, and other records are extremely helpful in this regard (Nahlik, p. 70). Jackson and Farrugia (1997) maintained that one of the most effective methods of diagnosis is the clinical interview.

However, inaccurate recollection of distant events, mood shifts, and behaviors occurs frequently (Schaffer, 1994). Mannuzza et al. (1993) found that one-fifth of the adults in the study that had been diagnosed as hyperactive in childhood could not remember having been hyperactive as children. Schaffer (1994) maintained that obtaining accurate childhood history may prove difficult. That study found that 20% of adults with established histories of childhood ADD could not recall having those childhood difficulties. Often the parents and teachers may not be available to verify the diagnosis (Gregory & Pinkowish, 1995). Wender (cited in Schaffer, 1994) noted that parental recall was more valid than patient recall. Nahlik (1996), on the other hand, reported that agreement rates between parents' and adult patients' recollection of childhood ADD symptoms were poor. Biederman (cited in Gregory & Pinkowish, 1995) asserted that parents of adults with ADD are generally not good sources of information primarily

because it is difficult to find and interview them.

Although conducting a thorough clinical interview is the most effective method of assessing ADD within an adult client, screening questionnaires can also be used (Jackson & Farrugia, 1997). Wender (cited in Jackson & Farrugia, 1997) developed the Utah Rating Scale which is designed to have clients fully describe their own childhood behavioral experiences. Observations are also solicited from parents, friends, and family members. After childhood ADD has been clearly established, the client is asked to complete a rating scale that helps to verify that the client is continuing to experience: 1) persistent motor activity, and 2) attention deficits into adulthood (Jackson & Farrugia, 1997). The Utah criteria does not recognize an ADD syndrome without hyperactivity.

Hallowell and Ratey (1994) maintained that they had seen a host of individuals, particularly women, who fit the clinical picture of ADD perfectly, except that they do not have a history of hyperactivity. Nahlik (1996) noted that adults tend to manifest restlessness rather than hyperactivity. The Utah scale requires that two or more of the following be present: 1) affective lability, 2) inability to complete tasks, 3) inability to control temper, 4) impulsivity, and 5) intolerance to stress (Jackson & Farrugia, 1997).

Another questionnaire that can be used to diagnose ADD is the University of Massachusetts Medical Center (UMMC) Protocol. This assessment tool requires that the client bring a parent, spouse, close friend, or relative to meet with the diagnostician. The client and the person who came with the client are asked to

complete the Symptom Checklist 90-Revised and a checklist of past medical problems (Jackson & Farrugia, 1997). The UMMC Ambulatory Psychiatric Symptom Rating Scale is then administered. This includes a checklist of 18 adult ADHD characteristics. Another diagnostic instrument that could be used is the Adult ADHD Questionnaire by Nadeau which is intended to be used as a structured assessment interview. Other assessment instruments include the Coperland Symptom Checklist for ADHD and the Brown Attention-Activation Disorder Scale (Jackson & Farrugia, 1997).

It is important for counselors to realize that clients will experience ADD symptoms along a continuum ranging from mild to severe levels. Hechtman and Weiss (cited in Jackson & Farrugia, 1997) suggested that the majority of adults will fall into the moderately affected category.

Treatment Issues

One reason for regarding ADD as a distinct disorder with a biological origin is the immediate and striking relief from some of its symptoms provided by stimulant drugs. The most frequently prescribed drugs are Ritalin, Dexedrine, and Cylert (Gregory & Pinkowish, 1995; Miller & Blum, 1996; Nahlik, 1996). These drugs have been found to be helpful with 75% of children and adults with ADD (Hallowell & Ratey, 1994). Stimulant medication can help decrease restlessness and improve concentration and attention (Nahlik, 1996).

Typical side effects of stimulant medication include appetite suppression, insomnia, sedation, agitation, gastric distress, headaches, and elevated blood

pressure and heart rate (Fargason & Ford, 1994; Hallowell & Ratey, 1994). Fargason and Ford reported that as stimulant levels fall, some individuals experience "rebound" symptoms, including irritability, motor restlessness, and emotional outbursts.

However, some adults with ADD do not respond to or cannot tolerate stimulant medications. For these individuals, tricyclic antidepressants may be used. These include Tofranil and Norpramin, Pamelor, Tofranil, Wellbutrin, Lodiomil, Prozac, and Buspirone (Gregory & Pinkowish, 1995; Hallowell & Ratey, 1994; Nahlik, 1996). The antidepressants work to increase the amount of dopamine and norepinephrine and the effects on the symptoms of ADHD are similar (Miller & Blum, 1996; Nash, 1997). Some side effects of the drugs include dry mouth, dizziness, lowering of blood pressure, constipation, and mild urinary retention (Inaba, Cohen, & Holstein, 1997). Hallowell and Ratey (1994) suggested that Norpramin is the most commonly used antidepressant for several reasons. It is usually administered once daily as opposed to multiple dosage levels with the stimulant medications. It is also preferred because it produces a more even level of behavior as opposed to the peaks and valleys of Ritalin.

The long-term benefits of drug treatment are uncertain (Hallowell & Ratey, 1994). It is difficult to predict which individuals will be helped and how long the drugs will be needed. Anxiety, depression, learning disabilities, and conduct disorders are not directly affected by the drugs (Hallowell & Ratey, 1994).

Not all individuals diagnosed with ADD are willing to comply with

recommended pharmacology. Children and especially adolescents with ADD are often reluctant to take the drugs at all. Hallowell and Ratey (1994) contended that they may be embarrassed about having to see a school nurse to take a pill. Furthermore, they may feel humiliated by the implication that they cannot control their own behavior. In one study (Wender, 1990), 20% of hyperactive children who had agreed to take drugs for a year stopped by the fourth month, and nearly 50% by the tenth month.

Treating the symptoms of ADD with stimulants and/or antidepressants is only part of the solution. A comprehensive treatment strategy for an adult should also include: 1) educating clients about the disorder, 2) developing attention management skills, 3) developing self-management skills, 4) developing interpersonal and social skills, 5) developing stress management skills, 6) developing anger management skills, and 7) developing problem-solving skills (Fargason & Ford, 1994; Hallowell & Ratey, 1994; Jackson & Farrugia, 1997). A majority of adults have little or no knowledge about ADD. It can be empowering for individuals to know there help for their symptoms. The more one can learn about ADD, the more successful the therapy will be (Hallowell & Ratey).

Hallowell and Ratey (1994) suggested that coaching and/or psychotherapy can be immensely helpful in treatment of the adult with ADD. They maintained that the ADD individual check-in with the coach on a daily basis in the beginning. The discussion should focus on the practical and the concrete. The questions the coach asks could be organized around the initials H.O.P.E. as follows:

H - Help: What kind of help does the person need?

O - Obligations: The coach should ask specifically what obligations are upcoming and what the person is doing to prepare for them.

P - Plans: Ask about ongoing plans. It can be immensely helpful to remind the person with ADD of their goals.

E - Encouragement: For individuals that have a lifetime of negativity, it is important for them to hear some words of encouragement.

ADD and Addiction

Attention Deficit Hyperactive Disorder (ADHD) is the current term for what has previously been called minimal brain damage, minimal brain dysfunction, hyperactivity, hyperkinesis, and attention deficit disorder with and without hyperactivity (Baren, 1989; Manshadi et al., 1983). The name has changed as our understanding of the disorder has broadened. With ADD affecting at least 3% of all children (Fargason & Ford, 1994), it would be helpful to know whether ADD children represent a major population-at-risk for alcoholism, and whether people with a past history of ADD account for a significant percentage of all alcoholics.

In a 1985 study by Huessy and Howell, they refer to an earlier study of theirs in which they followed students enrolled in rural northwestern Vermont schools from second grade through high school. Three years after the participants would have graduated from high school they were interviewed. Students were studied to determine if behavior associated with Attention Deficit Disorder exhibited by children in elementary school was predictive of later behavior and

academic performance. The study showed that most subjects currently report high levels of alcohol use.

In a subsequent study, Huessy and Howell (1985) examined childhood behavior problems in alcoholics and showed that the responses of alcoholics closely resembled those people with a childhood history of ADD. The study determined that ADD subjects seem often to move toward alcoholism while normal subjects move toward controlled drinking. Tarter, McBride, Buonpane, and Schneider (1977) defined primary alcoholics as severe drinkers and secondary alcoholics as less severe drinkers. That study proposed that primary alcoholics reported more symptoms of childhood minimal brain dysfunction, as ADD was called at that time, than did secondary alcoholics. Primary alcoholics reported almost four times as many symptoms of minimal brain dysfunction and also began drinking at an earlier age than secondary alcoholics and became alcoholic at an earlier age. Gregory and Pinkowish (1995) also maintained that adults with ADD who are untreated run a risk for problems with drug abuse and depression.

Fargason and Ford (1994) maintained that a sizable proportion of alcoholic and cocaine abusers have underlying ADD. Furthermore, they asserted that ADD clients often have a history of medicating themselves with stimulants for their calming effects. The most common stimulants used is caffeine. Khanizian (cited in Hallowell & Ratey, 1994) proposed a model that people use drugs to treat some underlying bad feeling. Cocaine is a central nervous system (CNS) stimulant with pharmacological properties similar to the stimulant medications Ritalin, Cylert, and

Dexedrine that are commonly used to treat ADHD (Inaba, Cohen, & Holstein, 1997). It is thought that individuals with untreated ADHD may use cocaine to "self-medicate these disease symptoms (Hallowell & Ratey, 1994; Weiss, 1986).

Other studies have supported the relationship between ADHD and drug abuse disorders. Mannuzza et al. (1993) found that adults with ADHD were five times more likely to have an ongoing drug abuse syndrome than controls. Marijuana and cocaine were the most frequently abused drugs in the study. They concluded that adult drug abuse disorders were dependent on the continuation of ADHD symptoms. Another study (Manshadi, Lippmann, O'Daniel, & Blackman, 1983) reached similar conclusions. These researchers found that there was increased prevalence of alcohol abuse and ADD in the families of individuals with persistent adult ADD compared to controls.

Wood, Wender, and Reimherr (1983) interviewed adult male patients admitted to residential alcoholism treatment centers in Salt Lake City. They found that 33% of those individuals met the criteria for Attention Deficit Disorder. They concluded that ADD in childhood may be associated with an increased risk for the development of alcoholism. Morrison and Steward (cited in Wood, Wender, & Reimherr, 1983) reported a greater frequency of alcoholism among the parents of hyperactive children than among the parents of healthy control subjects.

Like Huessy and Howell (1985), Gittleman, Mannuzza, Shenker and Bonagura (1985) were interested in assessing the late adolescent adjustment of children diagnosed as hyperactive compared to controls. The results of that study

indicated that the greatest risk factor for development of antisocial behavior and drug abuse is the maintenance of ADHD symptoms. Others have found that ADHD children have a high rate of certain psychiatric disorders. One of these is conduct disorder, a persistent pattern of violating social norms and the rights of others (American Psychiatric Association, 1994). Pihl and Peterson (1991) conceded that many male alcoholics have a childhood history of ADHD. However, they proposed that the nature of the connection has to do with aggression. Pihl and Peterson noted that aggression is one symptom of conduct disorder and that children with ADHD who also are aggressive are at increased risk of developing problems with alcohol and other drugs.

Similarly, Biederman et al. (1993) reported comorbidity of ADHD, conduct disorder and substance abuse. Mannuzza et al. (1993) proposed that childhood ADHD predicts specific adult psychiatric disorder, namely antisocial and drug abuse disorders. Klein and Mannuzza (1991) also reported a high comorbidity for continued ADHD, antisocial personality disorder, and substance abuse in adolescence. They also noted that the same seemed to be true in adulthood. Gittelman, Mannuzza, Shenker, and Bonagura (1985) offered the strongest support of the comorbidity of ADHD, substance abuse, and conduct disorder. Their study indicated that drug abuse rarely occurred if a conduct disorder had not already begun. Moreover, both of these seemed to depend on whether the childhood ADHD had continued. Hyperactive children, in the study, who retained symptoms had a 50-50 chance of having a conduct disorder in late

adolescence or early adulthood. Almost two thirds of the youngsters with conduct disorders progressed to drug or alcohol abuse.

It is estimated that at least 40% of children diagnosed with ADHD will develop conduct disorders (Steiner & Yalom, 1996). Alterman and Tarter (cited in Bukstein, 1995) concluded that conduct disorder, rather than hyperactivity, places individuals at risk for alcoholism. The observed association between hyperactivity and alcoholism is actually due to the high rate of comorbidity between hyperactivity and conduct disorder. Barkley et al. (1990) divided their ADHD group into an ADHD group with conduct disorder and one without conduct disorder. Upon follow-up, the ADHD-only group did not have higher use levels than normal controls, while the ADHD plus conduct disorder group had rates of alcohol and cigarette use two to five times more than normal controls.

In a recent study, Biederman et al. (1995) highlighted the problem of psychoactive drug use in adults with ADHD. The study demonstrated that there was a significantly higher lifetime risk for psychoactive substance use disorders in the ADHD adults than in the comparison group (52% vs. 27%). Additionally, the ADHD adults had significantly higher rates of drug and drug plus alcohol use disorders than the comparison adults. In a later study, Biederman et al. (1997) found no differences were detected in the rates of alcohol or drug abuse or dependence or in the rates of abuse of individual substances between a group with ADHD and a control group. However, they did find that ADHD probands had a significantly shorter time period between the onset

of abuse and dependence compared with controls.

David Miller (Miller & Blum, 1996) had worked in the addiction field for seventeen years. He began to notice that many of the clients that he worked with, as well as from his own experience, had symptoms in recovery that were not abstinence-based. His experiences led him to believe that there was a relationship between these symptoms and relapse and that those people who experienced more severe symptoms were more prone to relapse. These symptoms seemed to cluster around problems with concentration and memory, emotional overreaction, thought process problems, sleep disturbances, and stress sensitivity.

As Miller began to explore the connection, clients began to tell him that they had experienced these symptoms before they started drinking and that they had started drinking to cope with those problems. Research indicates that the majority of people recovering from alcoholism experience stimulus augmentation (Barnes, 1979; Miller & Blum, 1996). As Miller continued to examine the symptoms the clients who relapsed were experiencing, a pattern began to emerge. The symptoms they were experiencing were some of the same symptoms as experienced by those with ADD. Miller wondered if ADD and addiction were connected genetically. Others have investigated the family-genetic relationship between substance abuse and ADHD. Cantwell, as well as Morrison and Stewart (cited in Bukstein, 1995), found high rates of alcoholism and antisocial personality disorder in parents of hyperactive children.

Not all studies supported the association between ADD and addiction. The

findings for the study conducted by Schuckit, Sweeney, and Huey (1987) did not indicate an elevated risk for ADD in the sons of alcoholics. The research, conducted at the University of California, studied 32 young adult sons of alcoholic fathers and 32 controls. Each group completed a questionnaire regarding childhood and adult symptoms of hyperactivity. The research revealed no evidence of significantly increased self-reports of symptoms of childhood hyperactivity among the sons of alcoholics when compared with matched controls. Weiss and Hechtman (1986) reported similar evidence noting that hyperactive adults were not especially prone to alcoholism and drug abuse.

Although there are some that do not agree, the majority of the studies indicate that there may be an association between alcoholism and ADD. In view of the conflicting results of studies exploring the association between ADD and addiction, further examination of the association would be helpful. This study was designed to examine the possibility that recovering alcoholics might exhibit more ADD-like symptoms than individuals that did not have a problem with alcohol addiction.

CHAPTER III

METHOD

Subjects

All the participants were volunteers who were selected because of their availability for the study. The participants were divided into two groups, recovering alcoholics and a control group. The recovering alcoholics group consisted of 23 members drawn from three Alcoholics Anonymous (AA) groups in the greater Alton, IL area. An AA member, known to this researcher, offered to enlist the assistance of other AA members. All of the subjects in that group had a minimum of six months sobriety. The volunteers were told they were participating in a research study that would be used for a graduate level thesis. The length of time in AA ranged from 6 months to 17 years. The number of years in recovery was not reported for one subject. Using the number of years in sobriety for the remaining 22 subjects, the mean was 7.114 years, the median was 6 years, while the mode was 5 years.

The recovering alcoholics group consisted of 12 males and 11 females. Their age ranged from 27 to 65, resulting in a mean age of 43.391, a median age of 40.5, and a modal age of 47. The highest educational level in that group ranged from completing high school (12 years) to completing a master's level program (18 years). The mean for education level for the recovering alcoholics was 13.87 years of education, the median was 14 years, and the mode was 16 years of education. All the subjects in this group were Caucasian.

The control group consisted of 25 practicum students in the Professional Counseling program at Lindenwood College, one of whom was a recovering alcoholic. That student was considered with the recovering alcoholic group for this study. There were 22 females and 2 males. Their ages ranged from 25 to 49, resulting in a mean age of 34.25, a median age of 32, and a modal age of 27. The educational level in that group ranged from completing a bachelor's degree program (16 years) to completing a master's degree program (18 years). The mean for education level for the control group was 16.917 years, the median, as well as the mode, was 18 years of education. These volunteers were also told that they were participating in a research study that would be used for a graduate level thesis. The control group consisted of one African American and the remaining 24 were Caucasian.

Materials

The Brown Attention-Deficit Disorder (ADD) Scale for Adults was administered to both groups of volunteers. Each participant was asked to complete the Brown ADD Scale for Adults Ready Score Answer Document. The Brown ADD Ready Score Answer Document is a 40 item self-report questionnaire that examines not only the ability to sustain attention, but also the ability to activate and organize work tasks, sustain energy and effort to complete tasks, regulate moods, utilize short-term working memory, and recall learned information (Brown, 1996). The ADD symptoms were clustered in the following five areas for which a subscore could be computed: Activation, Attention, Effort, Affect, and

Memory.

The Ready Score Document provided a summary score indicating overall impairment from this broad range of ADD symptoms. Using the total score, a threshold of impairment could be determined from the corresponding T score. A T score of 40 or below indicated that ADD was possible, but not likely. A T score from 40 to 54 indicated that ADD was probable, but not certain. A T score between 55 and 120 suggested that ADD was highly probable. If a subject obtained a total score of 50 or higher on the Brown ADD Scale for Adults, it suggested a significant possibility that the subject would meet diagnostic criteria for an ADD. If a subject scored below 50 on the Brown ADD Scale for Adults, it was possible, but not very likely, that the person would meet diagnostic criteria for an ADD (Brown, 1996).

Symptoms queried on the 40 items of the Brown ADD Scale for Adults include all of the nine symptoms on the "inattention" list of the Diagnostic and Statistical Manual IV criteria for Attention-Deficit/Hyperactivity Disorder (American Psychiatric Association, 1994). The items of the Brown ADD Scale for Adults also include many other symptoms that are frequently associated with ADD in studies conducted by the Brown, Gammon, and Barura (cited in Brown, 1996) but not included in the Diagnostic and Statistical Manual IV AD/HD criteria.

Brown (1996) reported that "test data show a high level of internal consistency as indicated by the overall Cronback Alpha coefficient" (p. 39). Brown (1996) maintained that in the adult sample, there were 35 items with

correlations of .50 or better, 14 of which with levels of .70 or .80. The overall Cronback Coefficient Alphas of .96 for the Brown ADD Scale for Adults confirmed a high level of internal consistency for the items. Brown also noted that the items within each cluster tend to correlate well with one another. In the Brown ADD Scale for Adults, 32 items correlate .50 or better with total score for their cluster, 22 of them at the .60 level or better. Cronbach's Coefficient Alpha for the combined data clusters ranged from .79 to .92 on the Brown ADD Scale for Adults (Brown, 1996). In addition, concurrent validity was supported significant differential in IQ index scores using Wechsler instruments (Brown, 1996).

The Brown ADD Scale for Adults was assessed for reliability by using the test-retest method. The Brown ADD Scale for Adults was "readministered to a nonclinical comparison group (n = 75) two weeks after the initial administration" (Brown, 1996, p. 50). Correlation between individuals' scores on the first and second administration was .87.

Design

Three variables were examined: recovering alcoholics, non-alcoholics and the Total Score on the Brown Add Scale. T-tests were run comparing the Total Score on the Brown ADD Scale for the alcoholic (recovering) subjects with the non-alcoholic (not recovering) subjects.

Procedure

Each participant was given a copy of the Brown ADD Scale for Adults Ready Score Answer Document. The participant was asked to provide the

following information on the top of the form: Name, Age, Highest Grade Completed, Occupation, and Date. This researcher attached an additional survey form (Appendix B) to the Brown ADD Scale which asked each volunteer to indicate if he/she had a problem with chemical dependency. Each participant was given the option of providing only the first name and last initial if anonymity might be a concern.

This author instructed the participants to circle the number beneath the words that tell how much the participant believes the feeling or behavior has been a problem in the last six months. The examiner then indicated where and how the responses were to be recorded. Next, the subject's attention was directed to the Likert scale that denoted the frequency with which the behaviors or feelings occurred: Never, Once a Week or Less, Twice a Week, Almost Daily. These labels seemed to be problematic for the first subject. The examiner found that re-naming the labels seemed to improve the subject's ability to respond. It was decided that the choices would be re-labeled for all subjects as: Seldom, Sometimes, Often, Always. The 40 items from the Brown ADD Scale for Adults may be found in Appendix C.

Data Analysis

Levene's test for equality of variances and t-tests were run for both the alcoholic and non-alcoholic groups.

CHAPTER IV

RESULTS

The Brown ADD Scale yielded scores along five symptom clusters: Activation, Effort, Affect, and Memory. Each cluster subtotal score was examined and data was compiled comparing the cluster subtotal scores for the alcoholic group with the cluster subtotal scores for the non-alcoholic group. The range possible for the Activation cluster was 0 - 27. When examining all 47 participants, the data revealed Activation subtotal scores ranging from 2 to 22. Comparing the alcoholic group Activation scores to the non-alcoholics Activation scores, the data revealed that the alcoholic group Activation scores ranged from a minimum of 5 to a maximum of 22 whereas the non-alcoholic group scores ranged from a minimum of 2 to a maximum of 21. The mean Activation score for the alcoholic group was 11.087 as compared to a mean Activation score for the non-alcoholic group of 7.9167. The median Activation score for the alcoholic group was 11.0 whereas the median score for the non-alcoholic group was 7.5.

The range possible for the Attention cluster was also 0 - 27. The range of scores for the entire group was 1 - 20. The range of Attention scores for the alcoholic group was from a minimum of 3 to a maximum of 18 as compared to the non-alcoholic group scores which ranged from a minimum of 1 to a maximum of 20. The mean Attention score for the alcoholics was 10.31 whereas the non-alcoholics mean score was 7.71. The median Attention score for the alcoholic group was 10.0 as compared to the non-alcoholic median score of 7.0.

The scores for the Effort cluster could range from 0 - 27. The ranges of these scores for the entire group was 0 - 22 as compared to the alcoholic group's Effort scores which ranged from 0 - 22 while the non-alcoholic group's scores ranged from 0 - 13. The mean Effort score for the alcoholic group was 7.57 as compared to the non-alcoholic mean score of 4.21. The median Effort score for the alcoholic group was 7.0 whereas the non-alcoholic median score was 3.5.

The scores for the Affect cluster could range from a low of 0 to a high of 21. The data revealed a range from 1 - 14 for the whole group, a range from 2 - 14 for the alcoholic group, and a range of 1 - 12 for the non-alcoholic group. The mean Affect score for the alcoholic group was 8.04 as compared to a mean score of 5.46 for the non-alcoholic group. The median Affect score for the alcoholic group was 8.0 whereas the non-alcoholic group had a median score of 5.0.

The scores for the Memory cluster could range from a minimum of 0 to a maximum of 18. The data indicated a range of 0 - 16 for the whole group, a range of 1 - 12 for the alcoholics, and a range of 0 - 16 for the non-alcoholics. The mean Memory score for the alcoholic group was 5.22 as compared to 4.63 for the non-alcoholics. The median Memory score for the alcoholics was 6.0 whereas the non-alcoholic group had a median score of 4.0.

The Total Score was obtained by adding the five cluster subtotal scores together. It was possible to score from 0 - 120 for the Total Score. Brown (1996) noted the "total score is indicative of caseness, not of severity of the disorder. In

other words, the individuals with higher scores are more likely to have ADD, but may not necessarily present a more severe form of ADD. Severity should be gauged by ecologically valued criteria, assessed during a thorough clinical interview, including the extent to which the ADD impairs the person's functioning at work, in school, or in significant relationships. Assessment of intensity and pervasiveness of ADD impairments requires more data than the Brown ADD Scales alone can provide. (p. 63)

Examining the groups as a whole, the Total Scores ranged from 13 - 78. When these scores were plotted graphically in a histogram form, a normal bell-shaped curve (Appendix B) was apparent. This bell-shaped curve appeared to be positively skewed.

The Total Score for the alcoholic group ranged from a minimum of 16 to a maximum of 78. An analysis of the data revealed a Total mean of 42.22 and a Total median of 43.00 for this group. The Total Score for the non-alcoholic group ranged from a minimum of 13 to a maximum of 76. The non-alcoholic group had a Total mean score of 29.50 and a Total median score of 25.00.

Before proceeding to calculate the t-test value, the equality of variances for the two groups, alcoholics and non-alcoholics, must first be determined. Levene's Test for Equality of Variances was calculated for the two groups. Levene's test for equality of the variances for the Total Score yielded a probability of .472. Since the probability level (.472) was greater than the alpha level (.05), one can assume that the groups were homogenous and had equality of variances. The t-

test value was -2.77 with 45 degrees of freedom. The 2-tailed significance level of .008 was less than alpha (.05) suggesting that there is a significant difference between the two groups. Therefore, one can reject the null hypothesis that there is no significant mean score difference on the Brown ADD scale between alcoholics and non-alcoholics.

Table 1 illustrates the data comparing the Total ADD scores or the alcoholics and non-alcoholics.

Table 1

Total Brown ADD Scores

	Mean	Levene's	df	t	Signif
Alcoholics	42.2174	.472	45	- 2.77	.008 *
Controls	29.5				

*Significant @ P = .05.

CHAPTER IV

DISCUSSION

This study examined the results of the Brown Attention Deficit Disorder Scale which had been administered to 24 recovering alcoholics and 23 graduate students who had no problem with substance abuse. The purpose of this study was to investigate the relationship between Attention Deficit Disorder and alcoholism.

An important finding of this study was that recovering alcoholics reported having more ADD-like behaviors than the non-alcoholic graduate students. This finding supports Hallowell and Ratey's (1994) position that two-thirds of the population experience problems associated with the disorder throughout adulthood. Hallowell and Ratey also maintained that adults with ADD have a tendency toward addiction. Other studies have found similar associations. In a study by Huessy and Howell (1985), the researchers examined the childhood behavior problems in alcoholics. Their responses closely resembled those of individuals with a childhood history of ADD. That study also determined that ADD subjects seemed to move toward alcoholism. Tarter, McBride, Buonpane, and Schneider (1977) found that primary alcoholics, or more severe drinkers, reported more symptoms of childhood ADD than did secondary alcoholics, or less severe drinkers. Gregory and Pinkowish (1995) took it one step further maintaining that adults with ADD who are untreated run a risk for problems with drug abuse, including alcohol, and depression.

This researcher had wondered if alcoholics might have an underlying ADD diagnosis. Prior researchers had pondered the same question. Fargason & Ford (1994) found that a sizeable proportion of alcoholics had a history of self-medicating with stimulants for their calming effects. They reported that the most common stimulant used was caffeine.

Khanizian (cited in Hallowell & Ratey, 1994) found that one of the most common stimulants used to self-medicate was cocaine. Cocaine has pharmacological properties similar to the most common stimulant medications: Ritalin, Cylert, and Dexedrine. Hallowell and Ratey (1994) maintained that individuals with untreated ADD use cocaine to self-medicate the ADD symptoms. Mannuzza et al. (1993) also found that cocaine and marijuana were frequently abused by adults with ADD. They concluded that adult drug abuse disorders were dependent on the continuation of ADD symptoms. Manshadi, Lippmann, O'Daniel, and Blackman (1983) reached similar conclusions.

Wood, Wender, and Reimherr (1983) studied adult male patients admitted to alcohol treatment centers and found that 33% of those individuals met the criteria for Attention Deficit Disorder. This researcher's study found that 52% (n = 12) of the recovering alcoholic subjects reported ADD-like symptoms. Similarly, Pihl and Peterson (1991) found that male alcoholics had a childhood history of ADD. This researcher's study found that 42% (n = 5) of the alcoholic subjects with ADD-like symptoms were male while 58% (n = 7) of the alcoholic subjects were female. Mannuzza et al. (1993) took it one step further. They

maintained that childhood ADD predicts specific adult psychiatric disorder, namely antisocial and drug abuse disorders. Others offered similar conclusions. Gittelman, Mannuzza, Shenker, and Bonagura (1985) maintained that drug abuse rarely occurred if childhood ADD had not continued to be a problem. Biederman et al. (1995) reported that there were significantly higher lifetime rates of drug and drug abuse plus alcohol use disorders in the ADD adults than in a comparison group.

Others have wondered if continued problems with relapse among recovering alcoholics might be due, in part, to undiagnosed ADD. Miller and Blum (1996) found that individuals with more severe ADD symptoms seemed to be more prone to relapse.

Evaluation of Research Procedure

Huck and Cormier (1996) warned researchers about the Hawthorne Effect, the tendency of people to behave differently when they know they are subjects in a research investigation. This researcher distributed the Brown ADD Scale to each subject. The fact that the instrument's name, Brown ADD Scale, was printed on the front of the instrument made the subjects blatantly aware of what the researcher was investigating. Due to the Hawthorne Effect, subjects might have under-reported or over-reported ADD-like symptoms. In future research studies, the Hawthorne Effect could be minimized if instead of distributing the instrument to each subject, the researcher read the 40 statements regarding ADD-like behavior to each subject. In this way the subjects would not know precisely what

the researcher was examining.

Huck and Cormier (1996) also suggested that an experiment would be likely to have high internal validity if the subjects were assigned to comparison groups and if the groups were as equivalent as possible. This researcher attempted to meet this criteria with the two groups studied. However, the control group, the graduate-level counseling students, tended to have completed more education than the alcoholic group. The alcoholic group had a mean education level of 13.87 years and a median of 14 years of education. The control group had a mean education level of 16.92 and a median of 18 years of education.

Additionally, Huck and Cormier (1996) asserted that internal validity could be better maintained if "the study is conducted so that nothing differentially influences the groups except the independent variable manipulated by the researcher" (p. 587). It would be helpful if the alcoholic subjects tested were not known to the researcher. In this way, the subjects would be more likely to respond honestly. Attention Deficit Disorder may have pejorative connotations with some subjects. Consequently, subjects might under-report ADD-like symptoms if the subjects believe that the researcher may be able to identify them as having ADD-like behaviors.

It would have been helpful if this researcher had also inquired if any of the subjects had previously been diagnosed as having ADD. If any of the subjects responded affirmatively, the researcher should ask if that subject is currently taking any medication for the disorder and/or if the subject was currently, or had received

in the past, any counseling for ADD. If the subject was taking medication or receiving counseling, the researcher might want to at least note that fact when reporting results of the data. This sample was a sample of convenience which decreases generalizing the findings to the general population.

Although this research supported previous findings suggesting that alcoholics exhibit more ADD-like behaviors than non-alcoholics, the findings would probably be more definitive with a larger sample. Huck and Cormier (1996) suggested, however, that "it is the quality of the sample, rather than its size, that makes statistical inference work" (p. 118).

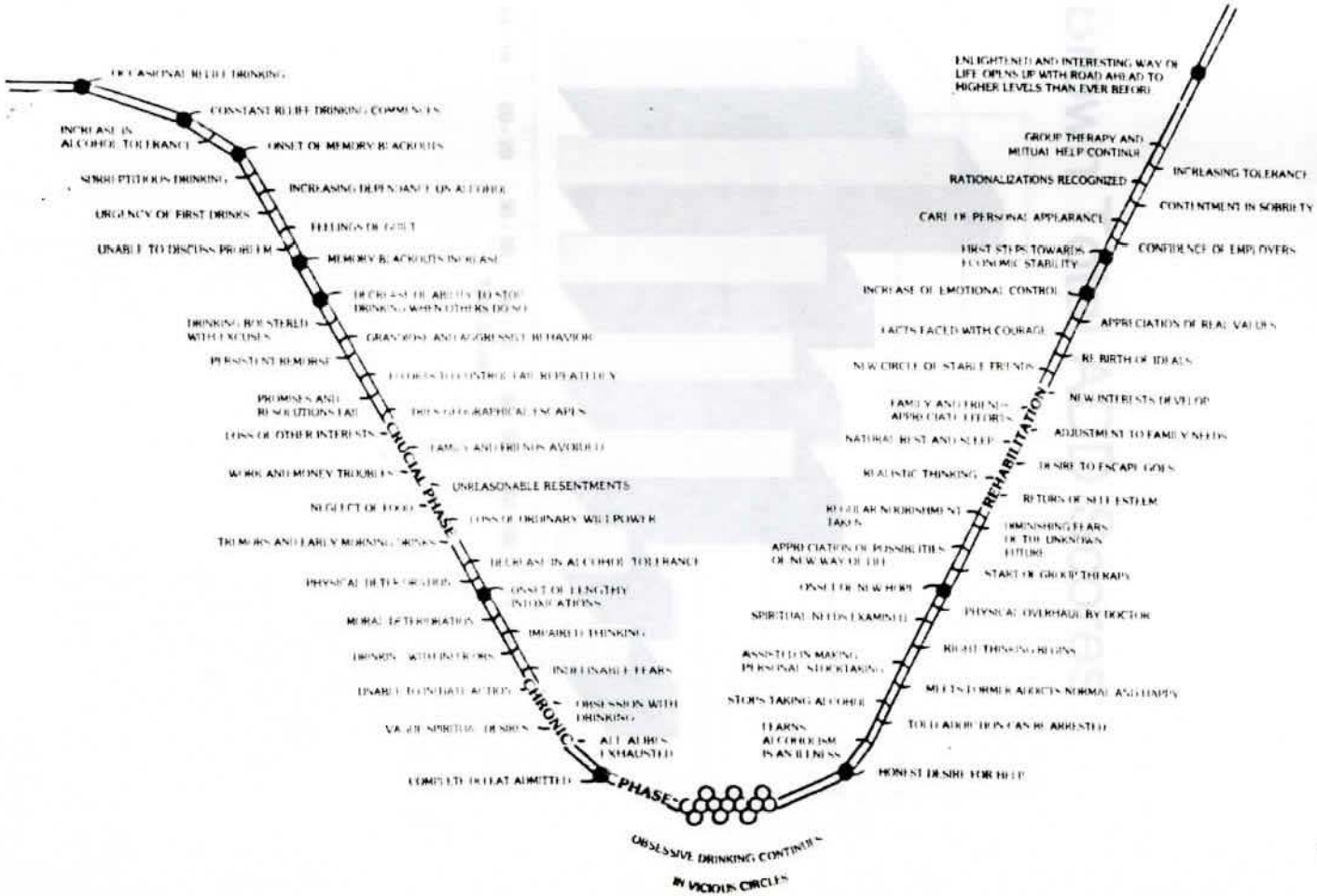
Suggestions for Future Research

The youngest subject in this research sample was 25. It has been well documented (Jenson, Howard, & Yaffe, 1995; Schaefer, 1987; Segal & Stewart, 1996; Steiner & Yalom, 1996; Teen Substance Abuse, 1997) that adolescents are involved in substance abuse. It would have been interesting to see if the association between alcoholism and ADD is also true with adolescents. For future studies, this researcher would recommend that the sample include adolescents as well as adults.

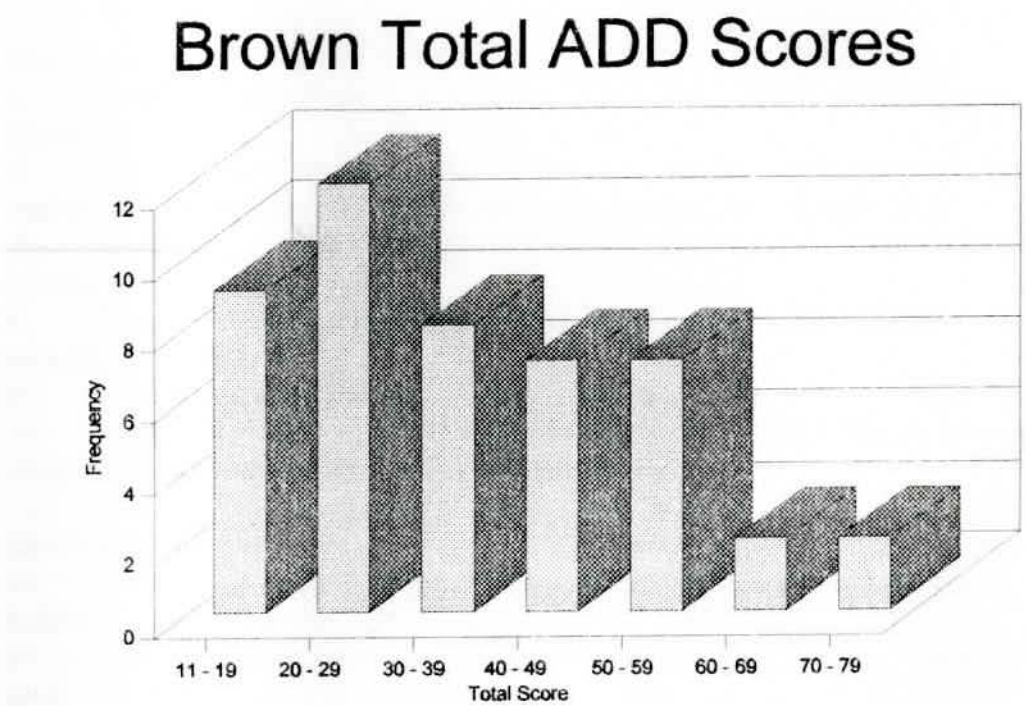
In addition to examining the association between ADD and alcoholism, this researcher also ran data on all the Brown ADD scores (activation, attention, effort, affect, memory, and total ADD score) for the alcoholic subjects using years in recovery as a variable. This researcher was interested in learning if the longer the alcoholic was in recovery, the better his/her coping skills and the less ADD-like

behaviors. The following scores were generated: Activation - P = .439, Attention - P = .577, Effort - P = .706, Affect - P = .712, Memory - P = .586, and Total Score - P = .513. The data revealed that there was no significant correlation found with any of the scores. Coping skills over time do not seem to affect ADD-like behavior for these subjects. Future studies might divide a sample of identified ADD recovering alcoholics into two groups, one that receives counseling aimed at improving coping strategies and one that receives no therapy. These two groups might be followed for a specific period of time and then re-tested to determine if the group receiving copy skills counseling reported lower ADD-like behaviors after receiving counseling.

A Chart of Alcohol Addiction and Recovery



Appendix B


Brown Total ADD Scores
Frequency
0
2
4
6
8
10
12
11 - 19
20 - 29
30 - 39
40 - 49
50 - 59
60 - 69
70 - 79
Total Score

Appendix C

Are you recovering from any chemical dependency?

_____ Yes

_____ No

Appendix D

1. Listens and tries to pay attention (e.g., in a meeting, lecture, or conversation) but mind often drifts; misses out on desired information.
2. Experiences excessive difficulty getting started on tasks (e.g., doing paperwork or contacting people).
3. Feels excessively stressed or overwhelmed by tasks that should be manageable (e.g., "no way I can do all this now; this is way too much" though it really isn't all that bad).
4. "Spaces out" involuntarily and frequently when doing required reading; keeps thinking of things that have nothing to do with what is being read.
5. Is easily sidetracked; starts a task then switches to doing something less important.
6. Loses track in required reading of what has just been read and needs to read it again; understands the words, but what was read "just doesn't stick."
7. Is excessively forgetful about what has been said, done, or heard in the past 24 hours.
8. Remembers some of the details in required reading but has difficulty grasping the main idea.
9. Is easily frustrated and excessively impatient.
10. Bogs down when presented with many things to do; has difficulty setting priorities, getting organized, and then getting started.
11. Procrastinates excessively; keeps putting things off: "I'll do it later," or "I'll do it tomorrow."
12. Feels sleepy or tired during the day, even after a decent sleep the night before.
13. Is disorganized; has excessive difficulty keeping track of plans, money, or time.
14. Cannot complete tasks in the allotted time; needs extra time to finish satisfactorily.
15. Intends to do things but forgets (e.g., turn off appliances, get things from store, return phone calls, keep appointments, pay bills, do assignments).
16. Is criticized by self or others for being lazy.
17. Produces inconsistent quality of work; performance quite variable - slacks off unless "pressure" is on.
18. Is sensitive to criticism from others; feels it deeply or for a long time; gets overly defensive.
19. Tends to be slow to react or to get started; sluggish or slow-moving; doesn't jump right into things; slow to answer questions or to get ready to do something.
20. Becomes irritated easily; "short-fused" with sudden outbursts of anger.
21. Is excessively rigid or is a perfectionist (has to get things just so, "picky,

Appendix D (continued)

picky, picky").
22. Receives criticism for not working up to potential (e.g., "could do so much better if only . . . would try harder or work more consistently").
23. Gets lost in daydreaming or is preoccupied with own thoughts.
24. Has difficulty expressing anger appropriately to others; doesn't stand up for self.
25. "Runs out of steam" and doesn't follow through; effort fades quickly.
26. Is easily distracted from tasks by background noises or activities; needs to check out whatever else is going on.
27. Has a hard time waking up in the morning; finds it very difficult to get out of bed and to get going.
28. In writing, must repeatedly erase, scratch out, or start over because of minor mistakes.
29. Frequently feels discouraged, depressed, sad or down.
30. Tends to be a loner among peers, keeps to self, and is shy; doesn't associate much with friends of same age.
31. Appears apathetic, or unmotivated (others think he/she doesn't care at all about his/her work).
32. Stares off into space; seems "out of it."
33. Often leaves out words or letters in writing.
34. Has sloppy, hard-to-read penmanship.
35. Forget to bring - or loses track of - needed items such as keys, pencils, bills, and paperwork ("I know it's here someplace; I just can't find it right now . .").
36. Doesn't seems to be listening and gets complaints from others about it.
37. Needs to be reminded by others to get started or to keep working on tasks that need to be done.
38. Has difficulty memorizing (e.g., names, dates, information at work).
39. Misunderstands directions for assignments, completion of forms, etc.
40. Starts tasks (e.g., paperwork, chores) but doesn't complete them.

References

Alcoholics Anonymous. (1976). New York: AA World Services.

American Psychiatric Association. (1994). Diagnostic and statistical manual of mental disorders (4th ed.). Washington, DC: Author.

Babor, T. F. (1996). The classification of alcoholics. Alcohol Health & Research World, Vol. 20, No. 1, 6-17.

Baren, M. (1989). The case for ritalin: A fresh look at the controversy. Contemporary Pediatrics, 6, 16-28.

Barkley, R. A., Fischer, M., Edelbrock, C. S., & Smallish, L. (1990). The adolescent outcome of hyperactive children diagnosed by research criteria: I. An 8-year prospective follow-up study. Journal of American Academy of Child and Adolescent Psychiatry, 29 (4), 549-555.

Barnes, G. E. (1979). The alcoholic personality. Journal of Studies on Alcohol, 40 (7), 571-623.

Biederman, J., Faraone, S. V., Spencer, T., Wilens, T., Norman, D., Lapey, K. S., Mick, E., Lehman, B. K., & Doyle, A. (1993). Patterns of psychiatric comorbidity, cognition, and psychosocial function in adults with attention deficit hyperactivity disorder. American Journal of Psychiatry, 150 (12), 1792-1797.

Biederman, J., Newcorn, J., & Sprich, S. (1991). Comorbidity of attention deficit hyperactivity disorder with conduct, depressive, anxiety, and other disorders. American Journal of Psychiatry, 148 (5), 565-577.

Biederman, J., Wilens, T., Mick, E., Milberger, S., Spencer, T. J., &

Faraone, S. V. (1995). Psychoactive substance use disorders in adults with attention deficit hyperactivity disorder (ADHD): Effects of ADHD and psychiatric comorbidity. American Journal of Psychiatry, 152 (11), 1652-1658.

Biederman, J., Wilens, T., Mick, E., Faraone, S. V., Wever, W., Curtis, S., Thornell, A., Pfister, K., Jetton, J. G., & Soriano, J. (1997). Is ADHD a risk factor for psychoactive substance use disorders? Findings from a four-year prospective follow-up study. Journal of the American Academy of Child and Adolescent Psychiatry, 36 (1), 21-29.

Blum, K., Noble, E. P., Sheridan, Pl J., Montgomery, A., Ritchie, T., Jagadeeswaran, P., Nogami, H., Briggs, A. H., Cohn, J. B. (1990). Allelic association of human dopamine D2 receptor gene in alcoholism. Journal of American Medical Association, 263 (15), 2055-2059.

Blum, K., Cull, J. G., Braverman, E. R., & Comings, D. E. (1996). Reward deficiency syndrome. American Scientist, 84 (2), 25 - 41.

Bradshaw, J. (1993). Healing the shame that binds you. Deerfield Beach, FL: Health Communications.

Brown, S. & Yalom, I. D. (Eds.). (1995). Treating alcoholism. San Francisco: Jossey-Bass.

Brown, T. E. (1996). Brown attention-deficit disorder scales. San Antonio: The Psychological Corporation.

Bukstein, O. G. (1995). Adolescent substance abuse. New York: John Wiley & Sons.

Chelton, L. G. & Bonney, W. C. (1987). Addiction, affects and self object theory. Psychotherapy, 24, 40-46.

Fargason, R. E., & Ford, C. V. (1994). Attention deficit hyperactivity disorder in adults: Diagnosis, treatment, and prognosis. Southern Medical Journal, 87 (3), 302-308.

The genetics of alcoholism. (1992, October). Alcohol Alert, 1-10.

George, R. L. (1990). Counseling the chemically dependent. Boston: Allyn & Bacon.

Gittleman, R., Mannuzza, S., Shenker, & R., Bonagura. (1985). Hyperactive boys almost grown up. Archive of General Psychiatry, 42, 937-946.

Goodwin, D. W. (1979). Alcoholism and heredity. Archives of General Psychiatry, 36, 57-61.

Goodwin, D. W. (1985). Alcoholism and genetics: The sins of the fathers. Archives of General Psychiatry, 42, 171-174.

Grant, B. F., Harford, T. C., Dawson, D. A., Chou, P., Dufour, M., & Pickering, R. (1994). Prevalence of DSM - IV alcohol abuse & dependence: United State, 1992. Alcohol Health & Research World, Vol. 18 (3), 243-245.

Gregory, T., & Pinkowish, M. D. (1995). Attention disorder: A problem for grown-ups. Patient Care, 29 (20), 24-26.

Hallowell, E. M., & Ratey, J. J. (1994). Driven to distraction. New York: Simon & Schuster.

Hechtman, L. (1991). Resilience and vulnerability in long term outcome

of attention deficit hyperactive disorder. Canadian Journal of Psychiatry, 36, 415-420.

Huck, S. W., & Cormier, W. H. (1996). Reading statistics and research. New York: HarperCollins College Publishers.

Huessy, H. R., Howell, D. C. (1985). Relationship between adult alcoholism and childhood behavior disorders. The Psychiatric Journal of the University of Ottawa, 10 (2), 114-119.

Inaba, D. S., Cohen, W. E., & Holstein, M. E. (1997). Uppers, downers, all arounders (3rd ed.). Ashland, OR: CNS Publications, Inc.

Jackson, B. & Farrugia, D. (1997). Diagnosis and treatment of adults with attention deficit hyperactivity disorder. Journal of Counseling & Development, 75, 312-319.

Jellinek, E. M. (1960). The disease concept of alcoholism. New Haven, CT: Hill House Press.

Jenson, R. M., Howard, M. O., & Yaffe, J. (1995). Treatment of adolescent substance abusers: Issues for practice and research. Social Work in Health Care, 21 (2), 1-18.

Kaminer, Y. (1991). Adolescent substance abuse. In R. J. Frances & S. I. Miller (Eds.), Clinical textbook of addictive disorders (pp. 320-346). New York: The Guilford Press.

Klein, R. G., & Mannuzza, S. (1991). Long-term outcome of hyperactive children: A review. Journal of American Academy of Child and Adolescent

Psychiatry, 30 (3), 383-387.

Long, P. W. (1995, April). Attention deficit disorder. The Harvard Mental Health Letter, pp. 123-131.

Mannuzza, S., Klein, R., Bessler, A., Malloy, P., & LaPadula, M. (1993). Adult outcome of hyperactive boys. Archives of General Psychiatry, 50, 565-576.

Manshadi, M., Lippmann, S., O'Daniel, R., & Blackman, A. (1983). Alcohol abuse and attention deficit disorder. Journal of Clinical Psychiatry, 44, 379-380.

McCarney, S. B., & Baner, A. M. (1990). The parent's guide to attention deficit disorders. Columbia, MO: Hawthorne Educational Services.

Miller, D., & Blum, K. (1996). Overload: Attention Deficit Disorder and the addictive brain. Kansas City, MO: Andrews & McMeel.

Nash, J. M. (1997, May 5). Addicted. Time, 149 (18), 68-76.

National Council on Alcoholism and Drug Dependence. (1990, April). FYI. New York: Author.

Nahlik, J. E. (1996). Diagnosis and treatment of attention-deficit/hyperactivity disorder. Primary Care Reports, 2 (8), 65-74.

Peele, S. (1986). The implications and limitations of genetic models of alcoholism and other addictions. Journal of Studies on Alcohol, 47, 63-73.

Pickens, R. W., Svikis, D. S., McGue, M., Lykken, D. T., Heston, L. L., & Clayton, P. J. (1991). Heterogeneity in the inheritance of alcoholism. Archives of General Psychiatry, 48, 19-28.

Pihl, R. O., & Peterson, J. B. (1991). Attention-deficit hyperactivity disorder, childhood conduct disorder, and alcoholism. Alcohol Health & Research World, 50 (1), 25-31.

Schaefer, D. (1987). Choices and consequences: What to do when a teenager uses alcohol/drugs. Minneapolis, MN: Johnson Institute Books.

Schaffer, D. (1994). Attention deficit hyperactivity disorder in adults. American Journal of Psychiatry, 151, 633-638.

Schuckit, M. A. (1987). Biological vulnerability to alcoholism. Journal of Consulting and Clinical Psychology, 55 (3), 301-309.

Schuckit, M. A., Goodwin, D. W. , & Winokur, G. (1972). A study of alcoholism in half-siblings. American Journal of Psychiatry, 128, 1132-1136.

Schuckit, M. A., & Rayses, V. (1979). Ethanol ingestion: Differences in blood acetaldehyde concentration in relative of alcoholics and controls. Science, 203, 54-55.

Schuckit, M. A., Sweeney, S., & Huey, L. (1987). Hyperactivity and the risk for alcoholism. Journal of Clinical Psychiatry, 48 (7), 275-277.

Segal, B. W. & Stewart, J. C. (1996). Substance use and abuse in adolescence: An overview. Child Psychiatry and Human Development, 26 (4), 193-210.

Steiner, H. & Yalom, I. D. (Eds.). (1996). Treating adolescents. San Francisco: Jossey-Bass.

Tarter, R. E., McBride, H., Buonpane, N., & Schneider, D. U. (1977).

Differentiation of alcoholics. Archives of General Psychiatry, 34, 761-768.

Teen substance abuse can be predicted at age six: Study. (1997, March). Substance Abuse Report, 28 (5), 1-3.

University of Michigan. (1996). Monitoring the future study. Ann Arbor, MI.

U. S. Department of Health and Human Services. (1991). Drinking habits, access, attitudes and knowledge. Youth and Alcohol: A National Survey.

Weiss, G., & Hechtman, L. (1986). Hyperactive children grown up. New York: Guilford Press.

Wender, P. H. (1990, November). Hyperactivity in children and adults. The Harvard Mental Health Letter, pp. 1-8.

Woititz, J. G. (1990). Adult Children of Alcoholics. Deerfield Beach, FL: Health Communications, Inc.

Wood, D., Wender, P. H., & Reimherr, F. W. (1983). The prevalence of attention deficit disorder, residual type, or minimal brain dysfunction, in a population of male alcoholic patients. American Journal of Psychiatry, 140 (1), 95-97.