

# Substance Abuse Monograph

Training School Psychologists to be Experts in Evidence Based Practices for Tertiary Students  
with Serious Emotional Disturbance/Behavior Disorders

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## Definition of Substance-Related Disorders:

Diagnosing a Substance-Related Disorder is more complicated than many other disorders because of the variety of combinations of disorders and substances that can be classified as Substance-Related Disorders. The issue of diagnosis is further complicated by the discrepancies between the two major diagnostic systems; the Diagnostic and Statistical Manual (DSM), which is produced by the American Psychiatric Association, and the International Classification of Diseases (ICD), which is produced by the World Health Organization. These two organizations have disagreed about what are the necessary and sufficient conditions for specific substance related diagnoses. This monograph will limit itself to the DSM because it is the most widely used diagnostic system in the United States. Figure 1 details the variety of possible Substance-Related Disorder diagnoses that are included in the DSM-IV-TR.

Under the umbrella of Substance-Related Disorders are two types of disorders. First, there are Substance Use Disorders. These include Substance Dependence and Substance Abuse. In general, Substance Dependence refers to an individual whose daily functioning is centered around acquiring and using a substance of abuse. Substance Abuse is related to the way that a substance interferes with an individual's ability to fulfill major life roles. Second, there are Substance Induced Disorders. These include Substance Intoxication, Substance Withdrawal and Substance-Induced Mental Disorders. Substance Intoxication is related to the changes that occur in an individual's cognitive function or behavior

Substances	Conditions	Induced Disorder												
		1 Dependence	2 Abuse	3 Intoxication	4 Withdrawal	5 Intoxication Delirium	6 Withdrawal Delirium	7 Dementia	8 Amnesic Disorder	9 Psychotic Disorder	10 Mood Disorders	11 Anxiety Disorder	12 Sexual Dysfunction	13 Sleep Disorder
1	Alcohol	X	X	X	X	X	X	X	X	X	X	X	X	
2	Amphetamines	X	X	X	X	X	X	X	X	X	X	X	X	
3	Caffeine			X							X		X	
4	Cannabis	X	X	X	X	X			X		X			
5	Cocaine	X	X	X	X	X			X	X	X	X	X	
6	Hallucinogens	X	X	X	X	X			X	X	X	X	X	
7	Inhalants	X	X	X	X	X	X		X	X	X			
8	Nicotine	X	X	X	X	X			X	X	X	X	X	
9	Opioids	X	X	X	X	X			X	X	X	X	X	
10	Phencyclidine	X	X	X	X	X			X	X	X	X	X	
11	Sedatives, hypnotics, or anxiolytics	X	X	X	X	X	X		X	X	X	X	X	
12	Polysubstance	X												
13	Other	X	X	X	X	X	X	X	X	X	X	X	X	
<b>Total Substance Use/Induced Disorders = 102</b>														

Figure 1 (adapted from DSM-IV-TR, p.193)

as a result of consuming a substance of abuse. Substance Withdrawal is related to the changes that occur in an individual's cognitive function or behavior as a result of decreasing or discontinuing the use of a substance of abuse.

Substance-Induced Mental Disorders are related to all the many possible psychological disorders that can be brought on by or exacerbated by the use of substances of abuse. Substance-Induced Mental Disorders are described in the DSM-IV-TR under the particular disorder that is results from the use of substances of abuse. For example, Substance-Induced Delirium is described under the section on "Delirium, Dementia, and Amnestic and other Cognitive Disorders. Figure 2 provides a more detailed flow chart of Substance-Related Disorders. It is worth noting that there is some controversy regarding whether or not the DSM-IV-TR characteristics for a Substance-Related Disorder are as applicable to adolescents as they are to adults. Some question if the same criteria that are used to diagnose adults can also be used to diagnose adolescents. Clearly there are some important physiological, neurological and social differences between adults and adolescents that effect how they respond to substances and how the substances effect their life functions. These complicating issues make accurately diagnosing and supporting adolescents with substances related issues a particular challenge.

While there is no special education classification specifically related to substance abuse, it is important for school personnel to be aware of how substances can affect students, their behavior and their academic performance.

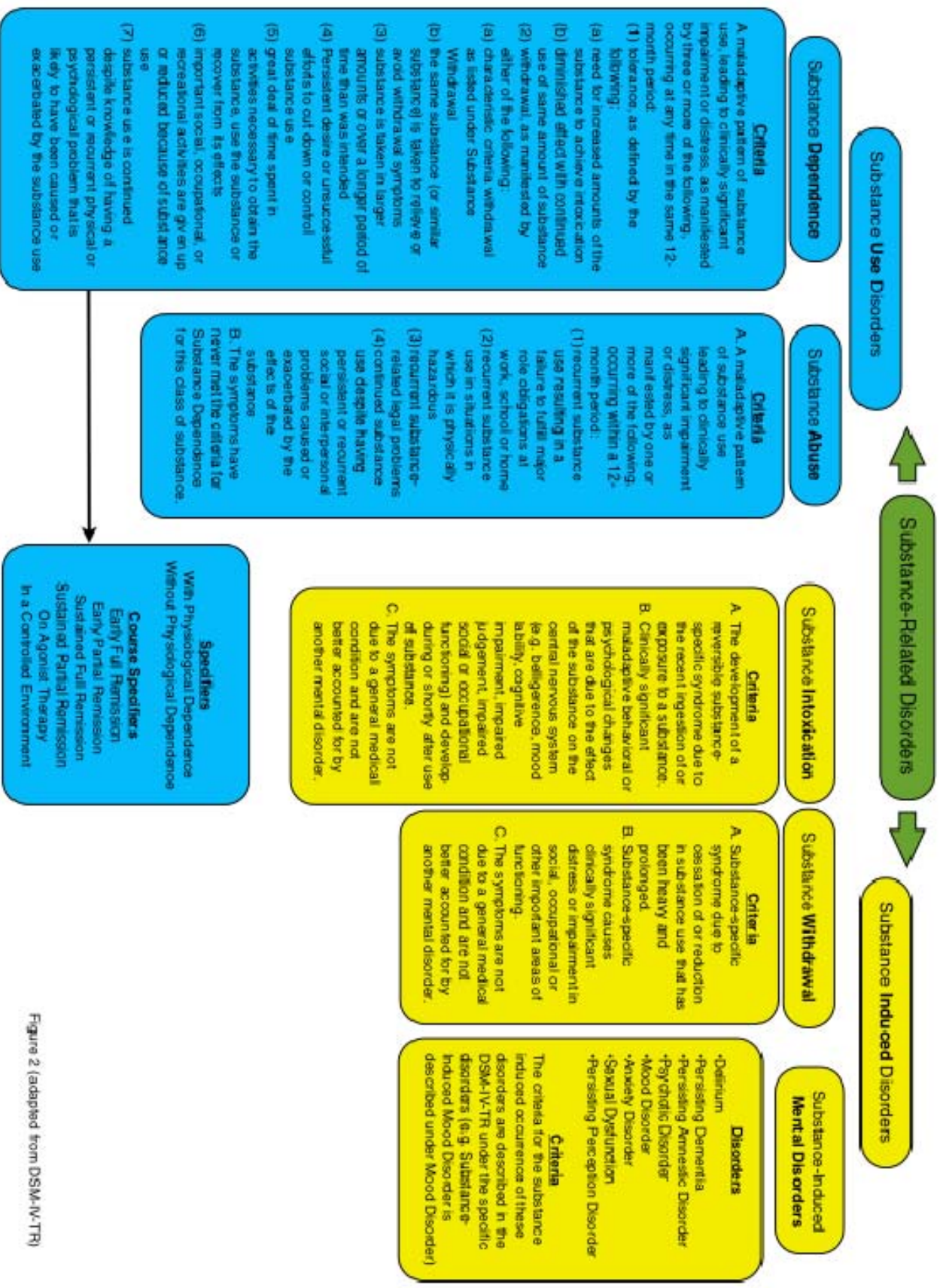


Figure 2 (adapted from DSM-IV-TR)

Students that are experiencing Intoxication or Withdrawal will likely have trouble concentrating on academic tasks and will likely demonstrate antisocial behaviors such as lack of inhibition control or social disengagement. This awareness is particularly important in light of some research that indicates that special education students typically face more substance abuse risk factors than their regular education peers. There is also some research to indicate that special education students demonstrate a pattern of increased substance abuse in relation to regular education students. Understanding that substance related issues are a particular concern for special education students and that special education students may experience substance related issues in school should guide school personnel, policies and programs related to providing the best education possible to special education students (Kress, 1993).

#### Prevalence Rates:

The National Institute on Drug Abuse in conjunction with the National Institute of Health, and the U.S. Department of Health and Human Services regularly produce a report entitled "Monitoring the Future". This report includes the results of a survey of 8th, 10th and 12th grade students from across the nation regarding drug use. The 2008 survey indicated that 20% of 8th graders, 34% of 10th graders and 47% of 12th graders reported having used an illicit drug at some point in their lives. The percentages decreased to 14%, 27% and 37% respectively for student who reported using illicit drugs in the past year. When asked about the past 30 days 8% of 8th grade students, 16% of 10th grade

students and 22% of 12th grade students reported using illicit drugs. It is important to exercise caution when interpreting these prevalence rates because they were derived from self-report surveys, which may underrepresent or overrepresent the actual prevalence rates of illicit drug use. It is also noteworthy that the surveys were administered in schools, which means that the results do not account for substance abuse among adolescents that dropped out of school.

The Monitoring the Future study indicated that marijuana was the most widely used illicit drug, with more than 40% of 12th grade students reporting having used marijuana at some point in their lives and 5% reporting daily use. It is worth noting that among 10th grade and 12th grade students, marijuana use is almost exactly as prevalent as cigaret use. Among 8th grade students inhalants are the most popular illicit drug with 16% of students reporting having used inhalants at some point in their lives. When legal drugs (cigarettes and alcohol) are considered prevalence rates are much higher. Approximately 40% of 8th graders, 60% of 10th graders and 70% of 12 graders reported having consumed alcohol at some point in their lives. Sixteen percent, 28% and 43% respectively reported using alcohol in the last 30 days.

While the above mentioned prevalence rates of drug use are important they should not be confused for prevalence rates of Substance-Related Disorders. Many adolescents who have used a drug of abuse have not met the criteria prescribed by the DSM-IV-TR for a Substance-Related Disorder. For example, a 2005 study estimated that 51% of the U.S. population age 18-20 consume or

have consumed alcohol while only 12% of that same population meet the criteria for an alcohol use disorder. On the other side of the issue, recent declines in the rate of substance use among adolescents may lead some to believe that the drug problem is improving for adolescents, however the prevalence of actual Substance-Related Disorders has almost doubled in the last 10 years (Davies, 2009). A quick Google search of phrases like, “teen drug abuse prevalence” or “adolescent substance abuse statistics” produce countless sights that provide information about the rate of adolescent drug use, but there is very limited information on the rate of DSM diagnosable Substance-Related Disorders. One study conducted with young adults ages 18-25 indicated that in 2007 as many as 1 in 5 young adults met the criteria for a Substance-Related Disorder. It is unknown whether substance abuse rates are similar in adolescent populations or not. This gap in the research provides an incomplete picture of how drugs are effecting adolescents in the U.S..

Though there is room for continued research in the area of adolescent substance abuse, the following statistics make it clear that it is an area that needs immediate and serious attention. According to the National Highway Traffic Safety Administration, in 2006, 31% of the drivers age 15-20 who were in a fatal car accident had been drinking. In a 2004 article published in the Journal of the American Medical Association, Mokdad et al. reported that 537,000 deaths a year are the result of substance use. The National Institute on Drug Abuse estimates that substance use costs the U.S. \$484 billion yearly including the cost of health care, treatment, lost productivity, crime and accidents. More



specifically, it is estimated that alcohol cost the U.S. \$191.6 billion per year, tobacco cost the U.S. \$167.8 billion per year and other drugs cost the U.S. \$151.4 billion per year (Miller 2009). Clearly preventing and treating drug use is in the interest of our nation.

#### Longitudinal Outcomes:

Adolescent drug use has important implications for outcomes later in life. One 1997 study examined the relationship between age of initiation of drinking alcohol and the likelihood of developing a DSM diagnosable Dependence on alcohol. This study concluded that age of initiation of alcohol consumption is a powerful predictor of later dependence. Specifically the study indicated that 41% of males and 39% of females that begin drinking at age 12 or earlier develop an alcohol dependence at some point in their lives. The study also suggested that for each year that an individual delays the initial use of alcohol, there is a 14% decrease in the likelihood of developing an alcohol dependence (Grant 1997). It is important to note that the early initiation of drinking may not be causally related to alcohol dependence later in life, however, it is clearly a marker for alcohol dependence.

There are several studies that collectively suggest that substance abuse is related to antisocial behavior and other life complications. For example, In a 2002 study of the relationship between schizophrenia and substance use, Buhler et al. concluded that marijuana abuse can precipitate the onset of schizophrenia. Substance abuse is also related to criminal behavior (Keene 2005). These and

other studies paint a clear picture that substance abuse among adolescents is related to negative outcomes late in life.

#### Assessment:

In his text on substance abuse treatment, Connors et al. define assessment as, “the collection and use of information to obtain an understanding of an individual (or couple or family), usually for the purpose of treatment planning, modification or evaluation (Connors, p.42). This definition of assessment is important because it is broad enough to allow several different people to participate in the assessment process. It is important for example for a clinician to collect information from the adolescent being assessed, the parents of that individual, the individual's teachers or other school personnel (coaches, counselors etc.). It may be particularly helpful to speak with the adolescent's friends to better understand patterns of substance use. When conducting an assessment a clinician should seek to answer the following questions as indicated by Dr. Buckstein: Does the adolescent use alcohol or other illicit drugs? What effect does this use have on the adolescent's functioning in his or her environment? Answering these questions will provide the clinician with insight into the severity, frequency and intensity of the use of the substances of abuse and of the effects of the use of such substances.

Assessment for Substance-Related Disorders should begin with a general screening. The prevalence of the use of substances of abuse among adolescents merits casting a wide net when seeking out those that are suffering

from a Substance-Related Disorder. Consequently, screening should be conducted by physicians, psychologists and school personnel, specifically school mental health workers. One of the challenges related to screening for substance abuse is the important distinction between a symptom, a syndrome and a disorder. Drs. Burrow-Sanchez and Hawken make an important clarification in their book on substance abuse (Burrow-Sanchez , 2007). A *symptom* is, “a behavior or emotion related to the problem”. For example, one symptom of drug use could be unwarranted irritability. This is an undesirable consequence of using a substance of abuse but does not, by itself, constitute a disorder. A *syndrome* is a collection of symptoms such as unwarranted irritability, inability to concentrate and overly aggressive behavior. When symptoms or syndromes combine to meet the specific criteria of the DSM-IV-TR, then the individual is said to have a *disorder*. This distinction is important because the simple fact that an individual displays some behaviors consistent with a disorder does not necessarily constitute a diagnosable disorder. This statement is not intended to minimize the use of substances of abuse or to excuse their use. It makes sense that the best time to intervene is before an individual develops a fully developed disorder. However, it is important to understand that when screening individuals there is a difference between drug use and Substance-Related Disorders. This distinction is important because it will guide decision making related to the type, intensity and duration of the intervention. A particular challenge that school mental health professionals need to be aware of is consent. While universal screening makes sense to mental health professionals and to those who

understand the importance of prevention, there are many parents, students and government officials who think differently. It is important that school mental health professionals become well acquainted with the state and federal laws that relate to obtaining consent before conducting any mental health assessment including screening.

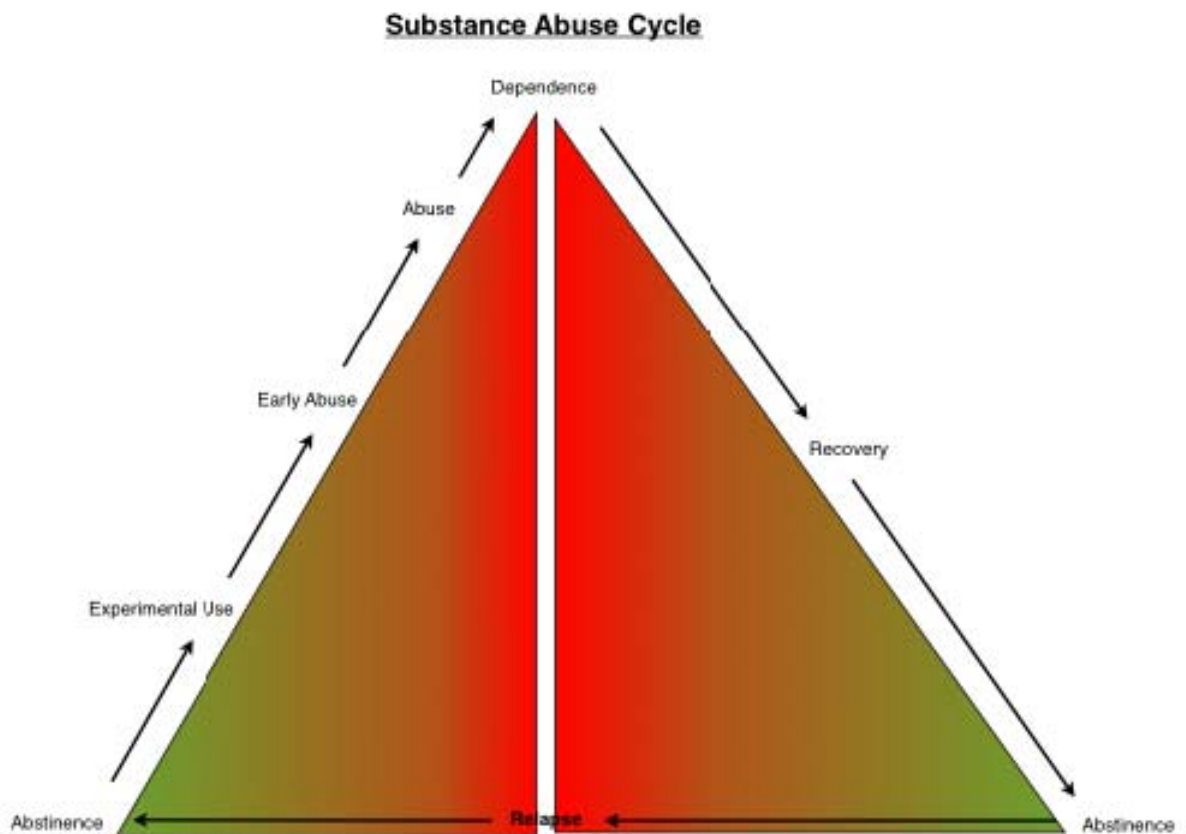


Figure 3 (Adapted from Colby and O'Leary)

To aid clinicians in understanding the severity of a particular type of drug use, one author posited a cycle of severity similar to the illustration in Figure 3. This too can be helpful too in determining the seriousness of an individual's drug use patterns and can help guide intervention decisions.

Following are some excellent resources for accessing and understanding assessment tools and instruments:

- Center on Alcoholism, Substance Abuse and Addictions  
(<http://cssaa.unm.edu/inst.html>)
- Alcohol and Drug Abuse Institute Library  
(<http://lib.adai.washington.edu/instruments/>)
- The Addiction Research Institute of the Center for Social Work Research, The University of Texas Austin  
([www.utexas.edu/research/cswr/nida/instrumentListing.html](http://www.utexas.edu/research/cswr/nida/instrumentListing.html))

Possible Causes and contributory factors:

There are three prevailing theories relating to the cause of substance use disorders. The first is a biological or organic theory. This theory posits that drug abuse, dependence and other drug related issues are the result of genetic or biological factors. This theory has been described in a few different forms. The first is the disease model of substance abuse. This model suggests that individuals who abuse substances have acquired a disease; a biological phenomenon that causes them to use substances. According to this model it would make no more sense to ask a person to just give up abusing substances than it would to tell a diabetic to just regulate his blood-sugar levels. Typically this disease model espouses the idea that addiction is a chronic incurable issue that must be managed throughout the course of one's life so that it will not ruin the person, similar to dialysis for the diabetic. E. M. Jellinek described this model in

his 1952 article entitled "Phases of alcohol addiction". This view has gained some popularity because it has been adopted by the Alcoholic's Anonymous (AA) organization. Many who regularly attend AA meetings live by this model.

Another iteration of the organic model is genetic model. This model is biased on the idea that some individuals have a certain genetic coding which makes them susceptible to drug abuse. This theory means that substance abuse is passed from one generation to another and that it is simply the part of who a person is. The fact that children of substance abusers are more likely to abuse substances themselves adds some weight to this theory (Dowieko, 2002; Windle, 1999).

One last biological theory is the brain chemistry theory. This theory suggest that for some individuals the use of drugs provides experiences that are more euphoric or powerful for some individuals than others. For those individuals such an experience is harder to resist than for individuals who have a less positive or powerful experience. This theory is based on what is known about the exchange of neurotransmitters between synapses in the brain (Abadinsky, 2004).

A second class of theories is the social learning theory. This theory posits that drug use is a learned behavior. Albert Bandura explored the idea that humans can learn from watching one another (Bandura, 1977). He suggested that most of what people learn is the product of modeling. Children see their parents participating in some behavior and they try to mimic the behavior. So, in the area of substance abuse, individuals who have friends or family members who abuse drugs will learn to do the same by watching. The result is that the

behavior becomes part of the social organization of an individual's life.

Perhaps the most satisfying theory is that substance abuse is the result of a combination of risk and protective factors. This theory accounts for both social and biological factors. At any time there are several different influences at work in an individual's life that make that person more or less likely to use and abuse substances. These factors include the genetic coding of the individual, the self image and mental health of an individual, the peers that an individual has, the geographic location of the individual, the socio-economic situation that the individual is in, the family that an individual belongs to, the school an individual attends and more. Each of these factors can either protect a person from developing a drug problem or put a person at greater risk for developing a drug problem (Burrow-Sanchez, 2007).

Interventions:

There are two approaches to addressing the adolescent drug problem. One is a prevention based approach, which is based on the effort to keep students from using drugs in the first place. The second approach is the treatment approach. The treatment approach is based on responding to individuals who develop substance abuse disorders. While there is clearly a need for both efforts to be in place, it is clear that the prevention approach is more economical and responsible. From a 1998 study, it was suggested that for every dollar spent on prevention between four and ten dollars can be saved on treatment (Pentz, 1998).

In a 2002 meta-analysis Prendergast et al. determined that those who receive treatment for a Substance-Abuse Disorder do better than those who receive no treatment or limited treatment. This study suggested that all treatments combined resulted in an effect size of 0.30, it further suggested that treatment produced an effect size of 0.13 on crime reduction. In other words, drug treatment has a small/medium effect on reducing future drug use and a small effect on the occurrence of future crimes committed by those who received treatment. This meta-analysis only included studies of adults, which the researchers defined as 18 or older. It is unclear whether or not these results can be extrapolated downward to apply to adolescent populations.

A 1991 review of adolescent drug treatment studies detailed the characteristics that contribute to the success of treatments (Catalano, 1991). Following is a brief summary of their findings:

- The time in treatment is a greater predictor of successful post-treatment outcomes for residential treatments than it is for outpatient treatments.
- Voluntary treatments produced greater effects than mandated treatments.
- Clients' perception that staff would disapprove of their further use of drugs decreased the likelihood that clients would use in the future.
- Parent involvement in the treatment process led to improved outcomes for adolescent abusers.
- Counselor reports of successful long-term psychotherapy were associated with poorer outcomes for clients.

These factors can be used to guide the design and study of future effective



treatments.

A 2008 meta-analysis of psychosocial treatments conducted at the Oregon Research Institute, concluded that there are promising treatments in terms of treating adolescent substance abuse. This study reviewed 17 studies conducted between 1998 and 2008 from which it concluded that there are three “well establishes” and “probably efficacious” interventions for adolescent substance abuse treatment. The three treatments are *multidimensional family therapy*, *functional family therapy* and *group Cognitive Behavior Therapy* (Waldron 2008).

Non-validated techniques:

There are generally two approaches to the problem of drug abuse. One is the prevention approach, which focuses on educating students and preparing them to resist the use of drugs before they are faced with that decision. The second is intervention. This approach focuses on what to do with students once they have become involved in using substances of abuse. One of the most widely used and most heavily funded prevention programs in the United States is the Drug Abuse Resistance Education program or DARE program. It was estimated in 2001 that between \$1.04 and \$1.34 billion per year were spent on implementing DARE. More recently it has been estimated that between 50% and 80% of school districts across the country use some version of DARE (Ennett 1994). With this type of funding and comprehensive usage one would hope that the DARE program is having a significantly positive effect on the actual drug use of students. However, such is not the case. The research on the DARE program

indicates that it is most effective at providing students with information about drugs. However, when compared to other prevention programs it demonstrated the poorest outcomes in terms of actual drug use. That is to say that of all the approaches that were studied the DARE program did the least to actually deter students from using substances of abuse (Ennett ,1994). The unfortunate problem is that because so much money, time and attention has already gone into the DARE program the key stakeholders are reluctant to abandon it and choose to try to justify its continued use instead. The result is that significant resources continue to go to an ineffective program that could be diverted to prevention approaches that have a greater effect on the actual frequency of drug abuse.

An intervention that has enjoyed some recent popularity particularly in the American West is wilderness therapy. These programs are based on the theory of experiential education, which is that individuals learn by doing. So, individuals are taken from their homes and sent to wilderness areas. In these areas they are expected to learn by doing. The things that they do include learning to build fires with primitive tools, backpacking, making typical native american crafts, building shelters and other high adventure activities. Wilderness programs are also based on removing individuals from the environment that allows them to use substances of abuse. The drastic change of environment to an extremely controlled situation guarantees that individuals no longer consume drugs. The students in wilderness therapy also receive regular therapy from licensed therapists.

While the field of wilderness therapy is fairly new, some research has been done on its effectiveness. The results of much of the research indicate some improvements in certain areas of the student's lives, which has led some to affirm the effectiveness of wilderness therapy. There are a few problems with the research that has been done in this area. The first problem is that most of the measures that were used to substantiate the claims of the effectiveness are self-report measures of wellness. Adolescents are known for not accurately completing self-report forms. A second problem is that researchers use parent and trail staff reports to determine the effectiveness of wilderness therapy. Parents are likely to indicate that they have noticed improvements in their children because they have invested thousands of dollars in the treatment. They do not want to think that they have wasted their money and so they are likely to overestimate the effect that the therapy has had. The field staff are likely to overestimate on the effectiveness of the treatment because it is a direct reflection of their own job performance. If a student did not make improvements it is likely that the field staff will feel responsible for the shortcomings and so they will likely rate a student as more improved than is indicated by actual behavior and attitudes. There are very few studies that look at substance use prior to wilderness therapy and substance use after therapy, even though substance abuse is often the primary presenting issue for which individuals are admitted to wilderness therapy.

A pair of meta-analyses indicated that wilderness is effective in the short term, however the positive effects of the therapy are lost over time. Drug use

and delinquency tend to increase with the passage of time (Wilson 2000). This trend is a particular concern in light of the fact that it is a tremendously expensive form of therapy. The other significant concern is that students have died participating in this form of therapy. In the state of Utah, multiple students have died as a result of participating in wilderness therapy ([http://findarticles.com/p/articles/mi\\_qn4188/is\\_20071011/ai\\_n21052592](http://findarticles.com/p/articles/mi_qn4188/is_20071011/ai_n21052592)).

#### Sample Case Study:

Billy, a 16 year old junior has been abusing drugs since he was 14 but has managed to keep that fact hidden from his parents. One of his teachers notices that his grades have been slipping and his work quality is declining. That teacher talks to Billy after class to ask him about his declining work. Billy responds that, "it's nothing, don't worry about it." The teacher suspects that there may be something more serious going on and so he approaches the school psychologist and describes the situation. The school psychologist requests a meeting with Billy to discuss the problem. In that meeting the student discloses that he stays up late to use illicit drugs with his friends and it is effecting his academic performance. The school psychologist along with the student calls the parents to inform them of the issue. The parents ask the psychologist for advice and receive a list of resources. The parents seek treatment outside of the school and arrange to be in regular contact with the school psychologist. The school psychologist sets up some school based interventions to help Billy function at school.

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