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Marijuana dependence and the efficacy of various theoretical treatment approaches

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Abstract

Marijuana is the most commonly used illicit drug in this country (Meyers, 1996), with 40% of the adult population having tried it at least once. Senay (1998) indicated that 9.1 percent of individuals who have ever tried marijuana become dependent. Those who use more than a few times weekly are estimated to be at a considerably higher risk of developing dependence, possibly as much as 20 to 30 percent higher (Denning, 2000).

MARIJUANA DEPENDENCE AND THE EFFICACY OF
VARIOUS THEORETICAL TREATMENT APPROACHES

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Marijuana is the most commonly used illicit drug in this country (Meyers, 1996), with 40% of the adult population having tried it at least once. Senay (1998) indicated that 9.1 percent of individuals who have ever tried marijuana become dependent. Those who use more than a few times weekly are estimated to be at a considerably higher risk of developing dependence, possibly as much as 20 to 30 percent higher (Denning, 2000).

Marijuana has been a part of our culture for hundreds of years (Rubin, 1999) and is linked to many religious and cultural groups. It's relaxing effects have also been used by many to relieve pain. Marijuana has also been a hotly debated topic in the medical field, with varying viewpoints regarding its positive and negative effects (Zickler, 1996).

Marijuana is a widely misunderstood substance (Rubin, 1999). An entire generation of Americans grew up believing that marijuana was virtually risk-free (Baum, 1996). This belief persists despite the growing evidence of physical, psychological, and social harm that is caused by this drug (Wisconsin Clearinghouse for Prevention Resources, 2000). Despite significant revelations about how marijuana negatively affects the brain and the body, there has been an increase in usage (Senay, 1998). The psychoactive component in marijuana, called THC, is toxic to nerve cells, especially in the hippocampic area of the limbic system (Senay, 1998). This is a critical area for learning, memory, and

interpretation of sensory experiences with emotions and motivation, and damage leads to a deterioration of learned behavior.

The biopsychosocial model is the integrated approach used by most substance abuse facilities (Margolis & Sweben 1998). It combines the biochemical factors, disorders of the self, learned or conditioned factors, and family and social factors into the development of the addiction. Although the model attempts to integrate various theoretical and empirical data from different schools of thought, little research has actually been published regarding the efficacy of the theories and techniques in relation to marijuana dependency and treatment.

There is a definite need for additional research regarding specific modalities of treatment and their outcomes for marijuana dependency. Although many studies show its prevalence in our society, few highlight data supporting one treatment modality over another (Robson, 1999). Despite its long-term presence in our society, research on treatment outcomes is difficult to find. Marijuana dependency is often treated just as any other chemical addiction. Longitudinal research on marijuana-dependent clients found that they had lower achievement levels, more acceptance of deviant behavior, poorer relationships with others, and lacked the motivation to continue in treatment (Hoffmann, 1995). Due to the unique dynamics of the effects of marijuana, specifically the lack of motivation experienced by users, these treatment approaches may not be effective (Denning, 2000).

This paper will examine marijuana treatment from three different theoretical approaches: Adlerian, cognitive-behavioral, and brief or solution-focused therapy, including how they may be helpful in the treatment of marijuana dependency. Comparisons between these theories and the biopsychosocial model of substance abuse will also be addressed.

History of Marijuana

Cannabis has been viewed by humans as a very important plant due to its versatility (Rubin, 1999). It has been used for everything from a fiber in clothing to a useful medicine to battle malaria and gout in China. Marijuana is a green or gray mixture of dried, shredded flowers and leaves of the hemp plant *Cannabis sativa* (Rubin, 1999). It is typically smoked as a cigarette or in a pipe or a bong. In recent years it has appeared in blunts, cigars that have been emptied of tobacco and re-filled with marijuana, often in combination with another drug such as crack (Swan, 1995). Some users also mix marijuana into foods or use it to brew tea (Fergusson & Horwood, 1997).

Marijuana is not a new presence in our society. It has been around for centuries. Ancient Greeks practiced a unique burial ritual during the fifth century involving hemp seeds (Rubin, 1999). In India, drinking a tea made from an extract of the plant's resin has been practiced for centuries. Called bhang, this stimulating drink is consumed in holy rituals and at informal social gatherings. Even the Bible contains several oblique references to mysterious herbs, spices,

and burning rituals that sound similar to how hash and hemp were used during that period (Rubin, 1999).

Marijuana was also popular with some breakaway sects. The most prominent religion associated with marijuana today is Rastafarianism, a religious-cultural movement with roots in 1930's Jamaica (Rubenstein, 2000). Rastafarians believe that marijuana is a sacred weed that is not only used in rituals but as a medicine as well. Popular reggae artists sing of the Rastafarian religion and their spiritual reverence for ganja, helping communicate the nature of the religion to a wide audience across the world.

Marijuana as a medicine has a curiously long history that has been mostly forgotten. Medicinal marijuana dates back thousands of years. It was first prescribed as far back as 2737 BC in China and was recorded in Han Dynasty court documents as being used to treat rheumatism, fevers, gout, and to relieve pain during childbirth (Rubin, 1999). In Europe and North America, marijuana was recorded in medical guides during the sixteenth and seventeenth centuries. A British Dispensary guide in 1683 suggested that hemp seeds could be used to cure coughs and jaundice but had the side effect of filling the patient's head with "vapors." (Rubin, 1999, pp. 9-10). During the Civil War, it was reported that cannabis was used to treat diarrhea and dysentery (Rubin, 1999), as well as for pain relief. These applications came with a warning that doses could cause intoxication, stupor, and hallucinations. Toward the end of the nineteenth

century, however, there were several problems with marijuana as a medicine were noted, some which linger today. Specifically, the potency of cannabis preparations varied widely from pharmacy to pharmacy, making it difficult for doctors to control patient doses. In addition, there is increased likelihood of medical problems such as respiratory ailments, along with impaired immunity and reproductive disturbances (Zicker, 1996). Accidents and injuries are also prevalent for users due to their delayed reaction time and impaired judgement (Gieringer, 1988).

Medical marijuana began to be widely publicized in the 1980s and the 1990s. Campaigns to legalize marijuana gained momentum while igniting widespread debate (Rubin, 1999). Proponents were pushing for marijuana to be legalized for a variety of medical applications, including combating the nausea from chemotherapy treatments, the wasting-away syndrome in AIDS sufferers, and even the uncomfortable symptoms associated with PMS (Robson, 1999). A majority of states passed laws supporting the medical use of marijuana. Despite those laws, the federal government continues to keep a tight seal on any plans for prescription marijuana. A growing number of research projects supported marijuana's harmful affects both physically and psychologically (Zickler, 1996).

Prevalence

Marijuana dependency continues to grow around the country as witnessed by many of the treatment programs. In Iowa, the number of youth under the age of

18 admitted for marijuana dependence in 1997 was 57 percent (Adolescents and Substance Abuse, 1998), as compared to 15 percent in 1993.

Swan (1995) found that adults admitted for dependency treatment in Iowa has risen from 9 percent in 1993 to 19.3 percent in 1997. In 1989, Roffman, Stephens, and Simpson estimated that the number of marijuana dependent adults was considerable, possibly 1.6 million Americans. Ten years later, Robson (1999) estimated that 5 million American citizens would meet the criteria for marijuana dependence. It is important to note that these figures may be distorted due to the reliability of the self reporting users.

Contributing Factors

Curren, Helene, & Hansell (2000) noted that both environmental and personality influences were significant predictors of marijuana dependency. Personality constructs such as depression, hostility, experience seeking, and disinhibition in combination with their social network combine additively to predict problem use according to these researchers. An interesting study done by Fergusson & Horwood (1997) linked cannabis dependence, particularly at an early onset, to crime and unemployment. They hypothesized that using marijuana encourages an anti-conventional lifestyle and contributes to the increase in anti-social behaviors.

Many factors contribute to the increased use. Hoffmann (1995) explored the role of family structure in adolescence to marijuana use, including the variety of

family forms and the attachments in those relationships, along with the amount of family and peer involvement. He noted that poor parent-child relations can lead to an increased likelihood of marijuana and other drug use. Another study by Curren, Helene, & White (2000) identified five variables among adolescents that contribute to problem use: friends' problem use, motivations, reinforcements, experience seeking, and gender. Hoffman (1995) concluded that the motivation to use with their peer group was the most significant of the predictors. This study also pointed out that males have more dependency problems with marijuana than females, and that increasing involvement in marijuana use may lead to greater associations with drug-using peers as well as further attenuation of family relations. Golub, Labouvie, & Johnson (2000) expressed concerns about the reliability in the responses that youth provide in regards to their use. They investigated the reliability of responses to initial marijuana use and found that many teens inflated their age. Golub, Labouvie, and Johnson suggested this was done to please the examiners and to be more socially acceptable with their peers and adults. Taking into account these age discrepancies, the study estimated the initial first use of marijuana at age nine.

Effects

Many marijuana users report feelings of euphoria with low doses of the substance (Senay, 1998). Smoking marijuana can also slightly change one's perception so that things appear funny or amusing. These effects occur

within minutes of smoking and usually last about two hours. The time frame is slowed to thirty minutes when ingested orally. Many users reported that using marijuana is pleasurable or exciting (Robson, 1999), and that other benefits include getting rid of unpleasant feelings of shyness, anxiety, or lack of confidence; fitting in with their friends; or feeling sophisticated or pleasantly rebellious and independent. Because many people expect positive consequences with the use of marijuana, this strong expectation helps the user overlook any negative aspects.

In terms of psychological effects, marijuana use primarily impacts mood, attention and memory, perception, and patterns of thinking (Robson, 1999). In moderate doses, perception is enhanced rather than distorted. Music, food, and sex, for example, seem more pleasurable and intense than usual but the user remains firmly in touch with reality (Roffman, Stephens, Simpson & Whitaker, 1988). Time seems to crawl by slowly, but the individual feels active and talkative. With slightly larger doses, there may be a more pronounced sedative effect (Swan, 1995). As time passes, many people become dry mouthed and hungry. Some experience sudden feelings of depersonalization or unreality. Hangover from cannabis use is usually mild. Oversleeping the following morning, possibly by several hours, is common. These short-term effects cease after marijuana use is discontinued. Many people feel that marijuana use is harmless and consider it a soft drug due to its short term effect (Margolis &

Zweben, 1998). It is rarely viewed as a potential health hazard by the general public (Baum, 1996).

Even though marijuana can provide the user with some positive effects, Many negative effects become eminent for the marijuana-dependent individual. Marijuana intoxication frequently contributes to crime and delinquency, car accidents, and poor school and work performance (Roffman, Stephens, Simpson, & Whitaker, 1988). Longitudinal research on marijuana use among young people below college age indicated that users have lower achievement than the non-users, are accepting of deviant behavior, engage in more delinquent behavior and aggression, are more rebelliousness, have poorer relationships with parents, and associate more with delinquent and drug using peers (Fergusson & Horwood, 1997).

Marijuana use seems to impair the ability to learn new information, which is certainly a cause for concern. There is no doubt that impaired concentration, learning, and short-term memory can be anticipated for marijuana users. What is still unknown is whether or not this impairment can persist after a person has stopped taking the drug, and if so for how long. One study noted that in subjects abstinent for 12 hours, residual effects were entirely restricted to recent memory in that long-term memory, immediate and delayed recall, attention, and concentration were all affected (Robson, 1999). Schwenk (1998) estimated that marijuana use has cost the United States billions of dollars in lost productivity

because of the slow and forgetful tendencies that exist in marijuana dependent individuals. Furthermore, marijuana use has cost the United States billions of dollars in lost productivity (Schwenk, 1998).

Marijuana also depletes Serotonin, a chemical transmitter linked to happiness (Gold, 1989). Depletion of Serotonin can affect a person chemically on a long-term basis. Low amounts of Serotonin are highly correlated with a decreased sense of pleasure and happiness (Roffman, Stephens, & Simpson, 1989). Many long-term dependent marijuana users who enter treatment report the inability to feel happy after they discontinue use. Anti-depressants are often prescribed to help boost the level of Serotonin in the brain.

Prolonged marijuana causes a number of medical problems, which can be permanently damaging (Zicker, 1996). Due to the large number of carcinogens marijuana contains, respiratory ailments, impaired immunity, and reproductive disturbances are quite common. Inhaling 3-4 marijuana cigarettes per day is similar to smoking 20 nicotine cigarettes. Many people who smoke marijuana also smoke cigarettes, placing the user at an even higher risk of respiratory problems.

Physical characteristics of marijuana users include an increased heart rate, clumsiness and slurring of speech, and reddened eyes. The heart rate of a marijuana user increases 29 beats per minute on average (Gold, 1989). Body temperature may become slightly reduced. Fatal overdoses due to marijuana

alone have never been reliably reported. The acute toxicity of cannabis is extremely low so the likelihood of overdosing is very rare. That isn't to say that marijuana users don't suffer other forms of injury or accidents. Impaired reaction time, depth perception estimation, time sense, recovery from glare, coordination, ability to track a moving object, and lack of judgement may prove to be a lethal combination for drivers and pilots (Gieringer, 1988).

Characteristics of Dependence

Substance dependence is a complex biopsychosocial disorder. It is expressed in biologic, psychologic, familial, social, and cultural spheres in varying degrees for each individual afflicted (Senay 1998). Marijuana dependence is defined as someone who is both psychologically and physically dependent (Baum, 1996), which implies an inability to control use of the drug. Dependent users may not feel good or normal unless they are using marijuana. People who are dependent may be able to use large amounts of the drug without appearing to be intoxicated or uncontrolled, which occurs because of their increased tolerance. Although marijuana dependence causes the same problems in their emotional, family, work, and social lives as it does for those who abuse but are not dependent, the problems are usually much worse (Swan, 1995).

A person may become physically and psychologically dependent on marijuana without realizing it (Fergusson & Horwood, 1997). Some people lose control over their use almost from the start. Even those who use only under

certain conditions may become dependent. Research is inconclusive as to the cause of marijuana dependence, but it appears that it is a result of physiological, psychological, and sociological influences (Stevens-Smith, & Smith, 1998).

Animal studies have confirmed the onset of physical dependence and withdrawal symptoms (Meyers, 1996). Among humans, many chronic users strongly crave the drugs' mind-altering effects of marijuana. It may play a central role in their life. Recent research indicated that more teenagers seek treatment for marijuana than for any other drug, including alcohol (Swan, 1995).

Psychological marijuana withdrawal occurs when someone who is physically dependent on the drug discontinues using. Withdrawal can produce a wide variety of symptoms that are usually mild and may last for less than a week but can persist for longer. Some of these symptoms include sleep disturbances, anxiety, irritability and anger, and depression (Gieringer, 1998). Cravings for the drug are also quite common. Some regular users abstaining from marijuana may exhibit aggressive behavior. Margolis & Zweben (1998) noted that it is useful to consider two main bodily processes in withdrawal: detoxification and homeostasis. Detoxification is the process of the drug clearing the body. The second is the process by which a new equilibrium or homeostasis is established. Homeostasis takes place over a long period of time and is highly variable in individuals. This stage can include relapses that may be linked not only to weakening motivation, but to biological as well as psychological factors.

Another long debated psychological problem associated with marijuana dependence is amotivational syndrome (Gold, 1989). The syndrome has symptoms including lethargy, diminished scholastic and/or job performance, and introversion. Other researchers have noted symptoms that appear to be contradictory to this clinical picture, with elements of aimless violence and aggression. The common thread in these descriptions seems to be a generalized dysfunction of cognitive, social, and interpersonal skills to a greater or lesser degree (Roffman, Stephens, & Simpson, 1989).

Treatment

Despite the continuing popularity of marijuana in this country, very little of the scientific literature on this drug focuses in the treatment of dependence (Margolis & Zweben, 1998). This may be due to two factors. First, the assumption continues that the mild physiological withdrawal symptoms preclude the likelihood that chronic smokers will need or seek treatment. Second, many people seem to believe that the treatment of marijuana dependence requires no unique clinical attention.

The philosophy for the treatment of marijuana dependence is primarily biopsychosocial: it is largely empirical in nature and consists of self-help groups, as well as psychiatric, psychological, social, familial, cognitive, educational, vocational, and social-learning components in varying mixes (Margolis & Zweben, 1998). The biopsychosocial model integrates insights from four

major paradigms: the disease model, the learning theory model, the psychoanalytic model, and the family systems model. The unique needs, resources, and coping skills of individuals are taken into consideration. Because the problem is episodic and recurring, it is best responded to by a whole continuum of care that provides for active treatment and relapse prevention (Senay, 1998).

There are three main treatment modalities to consider when working with this population, individual, group, and family therapy (Senay, 1998). Many treatment facilities promote a combination of all three to comprehensively address the client's dependence. Again, there is a lack of extensive research on specific modalities of treatment types and their outcomes for marijuana dependence. The field of addiction also lacks research about specific counseling theories and how they interact with the biopsychosocial philosophy that is generally used by addiction professionals.

Biopsychosocial Model

The biopsychosocial model is a common way to approach addiction treatment (Denning, 2000). It is an integrated theory, which assumes that many influences combine to create the conditions under which an individual becomes dependent. The theory takes into consideration the genetic background which may predispose the user to becoming chemically dependent. It also includes the sociocultural influences that can lead to the development of an addiction. Lastly,

the biopsychosocial theory addresses the psychological factors such as cognitive deficiencies that may complicate the treatment process unless addressed.

While the pharmacological and biological aspects of drug use play an important role in dependence, other factors are also present. Emotional traits such as risk taking, psychological variables such as depression, and social realities, including lack of education or advancement, all combine with the biological aspect of chemical dependence (Roffman, Stephens, & Simpson, 1989). A genetic pre-disposition may also exist, causing persistent addiction (Gulub, Labouvie, & Johnson, 2000).

Theories

Adlerian

Alfred Adler, the founder of Adlerian psychotherapy, viewed identifying and exploring mistaken goals and faulty assumptions as the goals of the therapeutic process (Prinz, 1997). Adler was very motivated to reeducate the client toward more constructive goals. Developing the clients' social interest was the main aim of therapy. He accomplished this through increasing their self-awareness and modifying their fundamental premises, life goals, and basic concepts. Adler did not see his clients as being "sick" and in need of being "cured." (Prinz, 1997, p. 232-233). He saw them as discouraged individuals who were responsible for their own thoughts, feelings, and actions. He also understood the importance of the family in the development of the individual.

Adlerian counseling is based on a collaborative arrangement between the client and the counselor. During the process of Adlerian psychotherapy, as in the process of recovery from addiction, it becomes necessary to take action in a more positive and useful direction. In both cases this direction involves the development of courage and social interest. Many of Adler's classic constructs are used in the treatment of substance dependence. One of Adler's first goals was to identify the client's specific inferiority feeling, recognize it, and conquer it. He also felt it important for the client to achieve some type of desire for significance, achievement or accomplishment. Adler saw the addict's community as being very narrow and disconnected, which is often the case. Adler felt strongly that if clients were not willing to acknowledge their mistaken direction, they were not going to change their lifestyle or goal. He expected the client to develop courage to admit their mistakes. One of the most important tasks of an Adlerian psychotherapist is to encourage the client to overcome difficulties in a more useful direction, which in turn builds courage and ultimately cooperation.

The Adlerian approach effectively focuses on the social aspects of the biopsychosocial approach to treating marijuana dependence. The underlying principal of therapy is to reconnect the chronic marijuana user to the community in hopes of developing social interest (Carlson & Slavik, 1997). The same goal exists in the biopsychosocial model. Training in social skills, alternative

recreational outlets, and assertiveness can equip the patient to manage without the “crutch” of marijuana (Prinz, 1997, p. 239). Involving clients in volunteer or community activities can overcome the deficiency in social interest that is characteristic of many substance abusers. Cooley (1997) recommended that Adlerian substance abuse counselors have a good understanding of the prolonged grieving process that marijuana dependent clients’ experience. He compared the loss of a loved one to the loss of marijuana for the dependent client. The intensity of the relationship must be validated despite its paradoxical nature.

Cognitive-Behavioral

The cognitive-behavioral model is frequently used in the substance abuse field, although little research has been done showing specific treatment outcomes with marijuana abusers (Denning, 2000). It is difficult to conduct addiction treatment without using at least some of the techniques that come from this area. The most well known cognitive-behavioral approach was developed by Albert Ellis and was originally called rational-emotive therapy (Corey, 1996). In 1993, Ellis changed the name to rational emotive behavior therapy (REBT). REBT is based on the assumption that cognitions, behaviors, and emotions interact and have a cause and effect relationship. This approach assumes that clients contribute to their own psychological problems and symptoms as a result of their perceptions. It is what people tell themselves about their situations, not the situations themselves, that determine how they feel and behave. In REBT, the

therapist and the client work together to identify the distress associated with the marijuana use and focus on changing the cognition or belief to discontinue the marijuana use. Education is also a focus during treatment. Specific groups on anger management, relaxation, and assertiveness training assist the client in addressing many of their problem areas (Margolis & Zweben, 1998). A number of effective behavioral techniques are utilized such as homework, desensitization, relaxation techniques, and modeling. Emotive techniques such as role playing, imagery, and shame-attacking exercises can also assist clients in re-evaluating their negative thoughts linked to dependence on marijuana.

Many of the cognitive-behavioral techniques gravitate towards changing thinking patterns in the client. This theory can be extremely helpful when addressing the causal relationship between the addiction and the underlying issue. REBT makes sense for people suffering from dependency issues. It has the potential to irradicate the “stinking thinking” associated with chemical dependency (Stevens-Smith & Smith, 1998). Exercises addressing the clients’ shame at being addicted is also a positive outcome, since guilt and shame are common themes for people entering treatment for a substance abuse issue (Senay, 1998). Utilizing the various REBT methods of treatment can help address these issues along with their primary diagnosis.

Brief Therapy

Brief or solution focused therapy is considered an alternative form of therapy and is relatively new in the substance abuse field (Miller, 1997). It was originally developed at the Mental Research Institute (MRI) in Palo Alto, California by Don Jackson, Virginia Satir, and Paul Watzlawick. The philosophy of solution-focused therapy can be summed up in three goals: finding out what the trouble is and begin solving it immediately, to do more of what is working, and to do something different if it didn't work after the initial attempt (Stevens-Smith & Smith, 1998). The positive side of brief therapy is its simplicity. Many substance dependent people feel overwhelmed at the thought of changing everything all at the same time, so focusing on one issue at a time is less threatening.

Unlike other theories, brief therapists realized that no single approach works for everybody. The solution-focused approach, with its emphasis on finding a solution that works for the individual, helps clients explore a variety of possible solutions. Brief therapists also understand that the solution and the problem are not necessarily related. Marijuana use may be one of the problems but the solution does not necessarily have to resemble it. Brief therapy focuses on the future and not the past. They address the client's strengths and don't dwell on their deficits. Brief therapy has strong assumptions that people can and do recover and that change is constantly occurring.

However, there are some limitations of this theory as it applies to substance abuse, primarily because of the shortened time frame for treatment. Senay (1998) reported that marijuana dependant clients did better the longer they were engaged in some form of counseling. Zweben & O'Connell (1992) also found that clients who continued treatment over a long period of time, 15-18 months, showed more improvement. Because clients make better progress over a longer period of time, shortened treatment time frames may be unsuccessful. Another limitation connected with the shortened treatment time frame is the lack of motivation often seen in marijuana dependant clients. This lack of motivation could be fueled by the fact that marijuana users don't feel significantly different after they stop using. It is common for an addict to take an entire year or more to become clear headed (Baum, 1996). Because they don't feel significantly different and experience lethargy, clients may experience a lack of follow-through, poor concentration, and impatience (Gold, 1989). These characteristics, along with their lack of motivation, may make brief therapy unsuitable as the primary source of treatment for the marijuana dependent client.

Comparison of Theories to the Biopsychosocial Model

The biopsychosocial perspective views marijuana addiction as a complex, progressive pattern having biological, psychological, sociological, spiritual, and behavioral components. According to this model, marijuana dependence is the result of various characteristics within an individual interacting with numerous

environmental factors. This model recognizes that marijuana dependence may develop in anyone and may produce many different consequences. A variety of treatment and intervention options must therefore be considered so treatment can be matched to the needs, strengths, and circumstances of each client. This model is also a model for treatment in which varying factors including external and internal factors are addressed.

In reviewing Adlerian, cognitive-behavioral, and brief therapy viewpoints, it is apparent they all address pieces of the biopsychosocial model. The Adlerian approach focuses on the social, familial, and psychological issues of dependency from the social point of view. The cognitive-behavioral approach emphasizes the cognitive and psychological aspects of the individual. Education is also addressed by the cognitive-behavioral theory as a way to decrease problematic behaviors or feelings. Brief therapists address whatever segment of the biopsychosocial model they need to when solving problems. All three of these theories play an important role in addressing marijuana dependence using the biopsychosocial model. If combined and used together, these three theoretical viewpoints could feasibly address the majority of the components of the biopsychosocial model.

Conclusion

Marijuana use has had a long-standing history in our society for centuries. It has been used for religious and medical purposes. Denning (2000) estimated that up to 12% of the population using marijuana become dependent. As

marijuana dependence increases, so do the negative psychological and physical effects experienced by the users. Marijuana use can impair learning and effects short-term memory. It has been has been linked to crime, unemployment, poor school performance, and antisocial behavior (Fergusson & Horwood, 1997).

Even though marijuana dependence is increasing in our society, treatment modalities and outcomes for marijuana dependent clients are not. The Adlerian, cognitive-behavioral, and the brief theories all provide pieces to treating the marijuana dependent client, but more in-depth research is needed regarding their outcomes. Additional research is also needed on the treatment of marijuana dependence using the biopsychosocial model, as it is the most encompassing way to address marijuana dependence. Combining the Adlerian, cognitive-behavioral, and brief theoretical viewpoints could provide counselors with a better, broad based approach to treating the dependence of marijuana. Continued conclusive research on the treatment of marijuana and the risks associated with its use continue to be an issue, making more research in these areas imperative.

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