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Research on Drug Addiction in Iran: Influences of Parenting Style and Personal Characteristics, and Effects of Mindfulness Treatment

(イランにおける薬物中毒に関する調査研究：
養育スタイルと個人特性の影響および
マインドフルネス・トリートメントの効果)

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Abstract

This thesis aimed to examine influences of parenting style and personal characteristics on the tendency to drug addiction, and the effect of mindfulness intervention on reduction of addiction symptoms.

The first study aimed to examine the influences of three parenting styles to the tendency to addiction. The result of multiple regression analysis showed that the two parenting styles (authoritative and authoritarian) significantly affect the tendency to addiction of students. There is a negative relationship between authoritative (rational authority) of father and mother on the tendency to addiction of male and female students, and authoritarian style of father has a positive relationship with the tendency to addiction of only female students.

These results indicated that in order to prevent children to get addict, father and mother should practice authoritative parenting for their children. Next, we focused on relationship between personal characteristics and tendency of addiction. The second study aimed to examine the influences of personality traits and maladaptive schemas on addiction. The results showed that there are significant differences between the addicts and non-addicts on personality traits (extraversion-introversion and neuroticism, and psychoticism) and early maladaptive schemas (abandonment / instability, mistrust / abuse, emotional deprivation, dependence / incompetence, vulnerability to harm or illness, enmeshment / undeveloped self, failure, entitlement / grandiosity, insufficient self-control and self-discipline, subjugation, self-sacrifice, emotional inhibition). The extent of maladaptive personality traits (introversion, neuroticism, and psychoticism) and twelve early maladaptive schemas of the drug addicts were higher than the non-addicts.

Therefore, it can be concluded that people who addict to drugs have severe personality weaknesses, and these psychological problems induce them to drug addiction.

Then we also examine the effect of adaptive characteristics on reduction of tendency to addiction. The third study aimed to examine the influences of attachment style, resilience and mindfulness on tendency to addiction of students. The results showed that there is a significant difference of attachment styles, resilience, and mindfulness between students with high and low tendency to addiction. The extent of avoidant and anxious ambivalent attachment styles of the students with high tendency to addiction were higher than those with low tendency to addiction, and the extent of resilience and mindfulness of students with high tendency to addiction were lower than those with low tendency. It indicates that maladaptive attachment styles induce the tendency to addiction. On the other hands, resilience and mindfulness, these are adaptive traits, could prevent drug addiction.

Finally, we examine the effect of intervention based on mindfulness on drug addiction. The final study aimed that the effect of mindfulness-based relapse prevention on reduction

of the symptom of methamphetamine addicts. The results showed that extent of substance use, self-injury behaviors and depression of intervene group are lower than control group in the time of pre-test and follow-up. Thus, mindfulness-based relapse prevention treatment could be effective on reduction of addiction symptoms of methamphetamine-dependent individuals. Because severe mental condition such as self-injury thought or depression may cause substance use and its relapse.

The results of the research could identify the factors that lead to the tendency of people to drug addiction, such as parenting style and personal characteristics like maladaptive personality, schema and attachment style. And they revealed that the resilience and mindfulness can prevent drug addiction, and mindfulness-based intervention program is useful for reducing the addiction symptoms.

The findings of this research can be used in couple therapy and parenting classes before having children. It may prevent the occurrence of mental disorders before the birth of the child by understanding participants own parenting style and learning the appropriate parenting manners. Early interventions toward Iranian parents, where they can learn about appropriate parenting are desirable.

In addition, the findings can be useful for adolescences to understand the psychological factors which affect to tendency to addiction, such as personality traits, maladaptive schemas and attachment styles, and it is expected that the workshops where they can learn about resilience, mindfulness, appropriate schemas and attachment style will be held. And the practice of mindfulness-based intervention and more research on its effect on various psychological problems should be done.

The limitations of the research relate the generalization of the results because the sample in the studies of chapter 5 and 7 are university students in Iran, and the number of participants in the studies of chapter 8 are small. More research using sample with various attributes or larger sample should be conducted. In addition, the more research on the process that parenting style and personal characteristics inducing or reducing the tendency to addiction should be conducted by interview or longitudinal study.

Key words

Drug Addiction, Parenting style, Personality Characteristics, and Mindfulness-Based Relapse Prevention Treatment.

Chapter 1: The Problem and Definition of Drug Addiction

1.1. What is Drug Addiction in Iran

Drug addiction is severe personal and social problem, which causes physical and psychological damage to the people with drug addiction, destroys their relationship with family or others and make their life difficult. Iran is one of the countries where drug addiction prevalence has increased in recent years (Garavand & Delavar, 2022).

In 2020 to 2022 in Iran, the most deaths related to narcotic drugs were 2,417 deaths, of which 2,101 people died from methadone, 224 people died from tramadol and 92 people died from other narcotic drugs. During this period, 1,744 people died due to the consumption of narcotic drugs, 282 people died of stimulants, and 1,569 people died due to the simultaneous consumption of several categories of drugs and medicines. According to this report, in the last year, the provinces of Tehran with 1,337, Fars with 447 and Isfahan with 433 had the highest number of deaths, while the provinces of South Khorasan with 25, Chaharmahal and Bakhtiari with 27 and North Khorasan with 29 had the lowest statistics of addiction deaths. The Public Relations of Iran's Forensic Medicine Organization has reported that the number of drug abuse deaths in 2021 increased by 15.2 percent compared to the previous year, and addiction killed 5,342 people this year (alimardani & Bahri, 2022).

Addiction is defined as a chronic, relapsing disorder characterized by compulsive drug seeking and use despite adverse consequences (National Drug Intelligence Center, 2011). It is considered a brain disorder because it involves functional changes to brain circuits involved in reward, stress, and self-control. Those changes may last a long time after a person has stopped taking drugs (Goldstein & Volkow, 2011).

Addiction is a lot like other diseases, such as heart disease. Both disrupt the normal, healthy functioning of an organ in the body, both have serious harmful effects, and both are, in many cases, preventable and treatable. If left untreated, they can last a lifetime and may lead to death.

The field of addictions has undergone dramatic changes in recent years. In 2001, Constance Holden wrote an article on the concept of 'behavioral addictions, and since that time, what to include under the umbrella of addiction has been the focus of considerable research attention. Many people do not understand why or how other people become addicted to drugs. It can be wrongfully assumed that drug abusers lack moral principles or willpower and that they could stop using drugs simply by choosing to change their behavior. In reality, drug addiction is a complex disease, and quitting takes more than good intentions. Because drugs change the brain in ways that foster compulsive drug abuse, quitting is difficult, even

for those who are ready to do so. Through scientific advances, we know more about how drugs work in the brain than ever, and we also know that drug addiction can be successfully treated to help people stop abusing drugs and lead productive lives (Office of National Drug Control Policy, 2004).

1.2. Definition of Addiction in the 5th Edition of the Diagnostic and Statistical Manual (DSM-5)

The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, often called the DSM-V or DSM-5, is the latest version of the American Psychiatric Association's gold-standard text on the names, symptoms, and diagnostic features of every recognized mental illness including addictions.

The DSM-5 criteria for substance use disorders are based on decades of research and clinical knowledge. This edition was published in May 2013, nearly 20 years after the original publication of the previous edition, the DSM-IV, in 1994.

As compared to DSM-IV, the DSM-5 changed the concept of "addiction" from "Substance-Related Disorders" to "Substance-Related and Addiction Disorders", listing nine types of substance addictions (alcohol; caffeine; cannabis; hallucinogens; inhalants; opioids; sedatives, hypnotics, and anxiolytics; stimulants; and tobacco).

The DSM 5 recognizes substance-related disorders resulting from the use of 10 separate classes of drugs: alcohol; caffeine; cannabis; hallucinogens (phencyclidine or similarly acting aryl cyclohexylamine, and other hallucinogens, such as LSD); inhalants; opioids; sedatives, hypnotics, or anxiolytics; stimulants (including amphetamine-type substances, cocaine, and other stimulants); tobacco; and other or unknown substances.

1.3. Definition of Addiction in International Classification of Disease, 11th Edition (ICD-11)

The World Health Organization's ICD-11 Working Group on Obsessive-Compulsive and Related Disorders has proposed a different categorization of these 'behavioral addictions.' Diverging from the approach of DSM-5, the Working Group for ICD-11 has instead proposed that the category of impulse control disorders should be retained and should broadly define these disorders by the repeated failure to resist an impulse, drive, or urge to perform an act that is rewarding to the person (at least in the short-term), despite longer-term harm either to the individual or to others.¹⁴ It is suggested that gambling disorder should be included in this category instead of alongside substance addictions and that the category should be broadened to include compulsive sexual behavior.¹⁴ Other possible impulse control disorders such as problematic Internet use and compulsive buying were examined at length and it was felt that there were insufficient data, at this time, to support their inclusion as independent mental

health conditions. For example, one argument (valid in our view) is that we cannot yet address whether excessive Internet represents a conduit for other types of repetitive behavior (e.g. Sexual behavior, or gambling), or constitutes a distinct entity in its own right (Jon, Grant & Samuel, 2016).

1.4. The Difference between Dependence and Addiction

One of the medical references of mental health experts for the diagnosis of addiction is the Statistical and Diagnostic Guidelines for Mental Disorders (DSM), the fifth edition of which has been published. In the 1980s, a committee of experts sought to revise the DSM-III guidelines. The solution for the DSM-5 was to merge the "dependence on drug" and "substance use disorder" groups into a group called "substance abuse disorder" in a chapter on "addictive and substance-related disorders." Dependence is not equal to addiction although it can be one of its features. The term "addiction" is a little more complex, and how it is defined has become a controversial topic in the medical community. From a medical and practical point of view, addiction is often referred to as the "DSM-5" category. However, the DSM-5 does not explicitly address this issue. The American Psychiatric Association, developed at the DSM, inadvertently uses the terms "substance abuse disorder" and "addiction" as synonyms on its website. A mental health professional will first conduct a thorough diagnostic interview to diagnose an addiction disorder. The interviewer evaluates the problematic pattern of substance use and behaviors that significantly lead to dysfunction. In addition, there are at least 11 signs to diagnose addiction:

- 1) Frequent use that leads to disruption of duties and obligations
- 2) Frequent use in dangerous situations
- 3) Consistent consumption despite interpersonal and social problems
- 4) Penchant
- 5) Adaptation
- 6) Addiction withdrawal syndrome (refers to a set of symptoms that appear when you stop taking or reduce the absorption of recurrent substances).
- 7) Long-term consumption or amounts higher than the prescribed amount
- 8) Continuous desire or unsuccessful attempt to control consumption
- 9) A lot of time is devoted to consumption-related activities
- 10) Decreased social or professional activities or entertainment
- 11) Consistent consumption despite psychological or physical problems (Sadock & Sadock, 2007).

1.5. Future Directions

The differences in approach to ‘behavioral addictions’ in the DSM-5 and the ICD-11 highlight the growing but as yet inconclusive data we currently have regarding these disorders. Several key issues emerge when we compare the approaches of these diagnostic systems, and when we consider the way forward in terms of addressing limitations in the existing corpus of literature. These issues are important because irrespective of arguments about how we best conceptualize these repetitive behaviors they result in enormous personal tolls for affected individuals (Lew-Starowicz & Coleman, 2022).

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Chapter 2: Drug Addictions and Related Factor

2.1. Parenting Style and Drug Addiction

Healthy families are the basis of a healthy society. Everyone is born into a family, grows up and developed. This is a healthy family that nurtures a healthy person. A healthy family is a family that cares about the comprehensive needs of its members throughout life and tries to meet their expectations and needs in the right ways (Adxamovna, 2022). It is not without reason that most psychologists, counselors, and educators in the process of studying children's behavioral and emotional abnormalities look for the root of abnormal behaviors in the past, that is, in childhood and the family context. Addiction is one of the most important social ills that seriously threaten, especially the young generation (Karkhi, 2012). Numerous factors, including individual, family, and social factors, are effective in initiating, continuing, or returning after drug treatment (Gossop & Grant, 1990). According to studies, the attitudes, beliefs and behaviors of parents, which are expressed in the form of family patterns or parenting styles, are a very important factor in the development of children's personality and identity, as well as their tendency to risky behaviors and substance abuse. Growing up in a warm and intimate family environment is positively associated with healthy mental development during adolescence. According to personality studies and theories, the tendency to risky behaviors and substance abuse is rooted in childhood and is particularly influenced by early family life and parenting styles (Stephenson & Helme, 2006).

Children's emotional and relational development can be negatively influenced by maternal substance abuse, particularly through a dysfunctional caregiving environment. Attachment Theory offers a privileged framework to analyze how drug addiction can affect the quality of adult attachment style, parenting attitudes and behaviors toward the child, and how it can have a detrimental effect on the co-construction of the attachment bond between the mother and the infant. Several studies have identified a prevalence of insecure patterns among drug-abusing mothers and their children (Dawe et al., 2004).

Benchaya et al., (2019) in "Role of Parenting Styles in Adolescent Substance Use Cessation: Results from a Brazilian Perspective Study", tried to identify the association between parenting styles and behavioral changes among adolescents regarding the consumption of alcohol, tobacco, cannabis, cocaine/crack. The parental styles most reported by adolescents were authoritative (30%) and indulgent (28%). The study found that parent-child relationships were associated with a lack of change in the adolescent regarding substance use behavior, particularly the consumption of alcohol and cocaine/crack.

Bergel et al., (2015) in "Role of parenting styles in adolescent substance use: results from a Swedish longitudinal cohort study" aimed to probe the impact of parenting style on

adolescent substance use and found that neglectful parenting style was associated with worse substance use outcomes across all substances. The results of the present study indicate that parenting style may be less important for adolescent substance use outcomes than what has previously been assumed, and that association with deviant peers and delinquent behavior may be more important for adolescent substance use outcomes than general parenting style.

Becona et al., (2012) in “Parental styles and drug addiction: A review” explain that family plays a fundamental role in the prevention and treatment of substance use. In the studies published in the last 30 years on the relationship between parenting styles and their offspring's drug addiction, the results show that the authoritative style is the most protective against substance use, whilst the neglectful style would increase the risk of drug addiction.

The second edition of NIDA's Preventing Drug Abuse among Children and Adolescents (2003) noted that “early intervention can prevent many adolescent risks.” This special supplement to that volume reflects a growing body of research that has continued to accumulate showing that providing a stable home environment, adequate nutrition, physical and cognitive stimulation, warm supportive parenting, and good classroom management in the early years of a child's life (prenatal through age 8) can lead the child to develop strong self-regulation (i.e., emotional and behavioral control) and other qualities that protect against a multitude of risks and increase the likelihood of positive developmental outcomes. Positive effects of these interventions include delayed initiation and decreased use of drugs when the child reaches adolescence (Jupp et al., 2013).

By adolescence, children's attitudes, behaviors, family interactions, and relationships - factors that may influence the propensity to try or become addicted to drugs are well established and not as easily changed. For young children already exhibiting serious risk factors for later drug addiction, delaying intervention until later childhood or adolescence may make it more difficult to overcome accumulated risk factors and achieve positive outcomes (Senyuz & Erden, 2022).

Our increased understanding of brain development and neuroplasticity across the first two decades of life also supports implementing the early intervention. The prenatal, child and adolescent brain is undergoing rapid and significant change, including the formation of new synapses and, after about age 5, the progressive pruning of unused synaptic connections and reinforcement of major circuits. Synaptic plasticity makes early childhood extremely sensitive to experiences and environmental influences (including family interactions and social contexts) that may act either as risk factors for later drug addiction and related problems or that may be protective against those risks. Thus, the earlier an intervention occurs, the greater the potential to take advantage of biological, emotional, and behavioral sensitive periods to alter the course of development in a positive, healthy direction (Motyka, & Al-Imam, 2022).

Research supports the value of interventions that reduce risk factors, promote protective factors, and increase access to resources (e.g., school and community-based family support services) in the lives of young children and those closest to them. Substantial data from many long-term studies now indicate that intervening with children and families who are showing early risk factors for substance abuse is effective, and the benefits of such interventions continue into adolescence and young adulthood and even into adulthood (Jupp et al., 2013).

Research has also found that a large number of early risk factors for substance abuse are simultaneously risk factors for other mental, emotional, and behavior problems. For example, early-onset externalizing behavior problems, such as aggressive and disruptive behaviors in the preschool years, have been found to relate to increased risk for outcomes such as conduct disorders, substance use, delinquency, and risky sexual behaviors in adolescence. Given that this is the case, it is not surprising that interventions designed to prevent substance abuse have shown many positive benefits that extend to other outcomes including improved personal, social, and familial functioning; higher academic and career achievement; and less involvement with the juvenile justice system and mental health services (Marinoni et al., 2013).

Early childhood prevention interventions can be costly to implement, but the research balancing the benefits of these programs against their costs shows they are good occasionally very good investments. Thus, a well-conceived and well-implemented intervention for very young children can not only dramatically improve the quality of life for the children and families involved but also benefit the community and society as a whole (El Sayed et al., 2019).

“Intervening in Early Childhood” describes common elements of early childhood interventions that target individual, family, school, and community precursors of drug addiction, abuse, and addiction. “Research-Based Early Intervention Substance Abuse Prevention Programs” includes information on specific early childhood intervention programs for which the National Institute on Drug Abuse (NIDA) has provided research support, and a section on “Selected Resources” provides links to many Federal agencies, professional and academic organizations, and non-governmental agencies that engage in early-childhood prevention-related initiatives. Two appendices for policymakers, researchers, and practitioners go into greater detail on how early childhood interventions are designed and how to select the right intervention for a community’s specific needs (Simatupang & Faisal, 2022).

2.2. Personal Traits and Drug Addiction

Personality traits are among the most important determinants of the tendency toward high-risk behaviors such as smoking, alcohol, drugs, and insecure sexual activity (Gruenert,

2010). Personality traits with other environmental factors play an important role in the onset and continuation of problematic use of drugs (Dermodi, Cheong, et al., 2014).

Early maladaptive schemes are patterns, or deep-seated intrinsic contents that are related to one's relationship with oneself or others and are highly ineffective (Koppers, et al., 2023).

Various factors such as risk-taking, excitement, impulsive personality and satisfaction of emotional needs have been the most important reasons for the tendency to use drugs among adolescents (Dan et al., 2008). Negative self-image and low self-esteem also affect adolescents' tendency to consume alcohol. Jacobs (1986) has stated that the early psychological contexts of childhood influence the formation of habitual patterns and behaviors such as substance abuse. The results of Ball (1998) also confirmed the schemes of emotional deprivation, self-harm and stubborn criteria in drug users. A person with an emotional inhibition schema believes that he or she should control his or her emotions as much as possible. Also, in the scheme of rigid criteria, one believes that one must meet high standards and criteria. In general, people with rigid criteria or emotional inhibition are less likely to use drugs (Chai et al., 2022).

The results of Morris's (2006) research have shown that inappropriate family environment and pathological interactions with the child lead to the formation of maladaptive schemas such as rejection and abandonment, emotional deprivation, and abuse, social isolation and emotional inhibition that in such situations, adolescents may develop a sense of inability to dominate and control the environment and show less emotional adjustment and lower self-reliance than other adolescents. By activating schemas, certain beliefs about oneself are activated, and these rapid assessments lead to the activation of automated behaviors or patterns (Bishop et al., 2022).

It has long been known that certain personality traits make an individual more vulnerable to addiction than others. One of the most addictive ones is impulsivity. Impulsivity is the tendency of an individual to act with impulse, without the ability to resist any act, without reflection or planning. People with elevated impulsivity are more vulnerable to developing substance use disorders and are interested that this trait seems to pre-exist in individuals with addiction (Cohen et al., 2020). Thus, an impulsive and reward-sensitive temperament can increase the probability to want to experiment with psychoactive substances (Dawe et al., 2004). In addition, observing drug-addicted individuals and their siblings, it emerges that people, who exhibited highly impulsive personality traits and anxiety were associated with an increased risk to develop an addiction to cocaine or amphetamine (Ersche et al., 2012). From a neurobiological point of view, impulsivity is linked with the brain system, where tests on rodent models suggest a role of monoaminergic corticosteroid systems in the expression of this behavioral trait. Specifically, the involvement of the striatal D2/D3 receptors was identified (Jupp et al., 2013). Connected to impulsivity, also the capacity for decision-

making, sensation seeking, and neurobehavioral disinhibition have also been proposed as risk factors (Jentsch et al., 2014). Specifically, subjects with an early onset of alcoholism had higher levels of impulsivity, sensation seeking, and aggression. A possible explanation for these correlations could be that a high level of sensation seeking may be an incentive to start experimenting, while impulsive traits may be more involved in the subsequent loss of control (Tarter, Nower, Dom et al., 2006). Moreover, also extraversion-introversion and neuroticism are risk factors especially in adolescence since they have been associated with the early onset of smoking (Bos et al., 2019). Farther, Terraciano et al., (2008) found also that, low conscientiousness and high neuroticism are traits that are common among tobacco smokers and heroin, cocaine, and marijuana users (Terraciano et al., 2008). Interestingly, also for Internet addiction, recent studies identify specific personality traits that could make people more prone to addiction. Lastly, it was found that also harm avoidance is related to this modern addiction. Examining the relationship between temperament and vulnerability to smartphone addiction among medical students, it emerges that the majority of the 185 participants have low levels of novelty seeking, high levels of reward addiction, and harm avoidance (Hanafi et al., 2019).

2.3. Resilience and Drug Addiction

In psychology, resilience is referred to as the positive capacity of individuals to adapt to stress and resources, and this concept is also considered to determine the attribute of tolerance to future risk factors (Hart et al., 2014). According to Kobasa & Maddi (1994), a hardy person can feel deeply involved or committed to the activities he or she performs; Believes that it can control or influence events and considers psychological stressors to be changeable. From Kobasa's perspective, a hardy individual has three general characteristics:

A) Believing that they are capable of controlling or influencing events and making stresses changeable

B) Having the ability to feel deep-seated or committed to the activities that the individual does

C) Believing that changes are exciting struggles for more growth, and considering it as a normal aspect of life (Kobasa & Maddi, 1992).

Some people are more vulnerable to addiction than others, moving from use to abuse without physical and mental control. Behavioral expressions of addictions are often found in association with stress, mood disorder, pain, and traits such as impulsivity, both in human subjects and in animal models. Knowledge of risk factors could help decrease the incidence rate of addiction: families, schools, and health care should identify and preventively treat these risk factors thus decreasing vulnerability.

Through resilience, individuals can be helped to deal with the unpleasant reality of life positively and efficiently (O'Connor & Batcheller, 2015). Kampfer (1999) believed that resilience is the return to the initial balance to achieve a higher level of equilibrium (in terms of threatening conditions) and, therefore, provides a successful adaptation in life. Kampfer also points out, however, that the positive adaptation of livelihood can both be a consequence of volatility and, as a precursor, result in a higher level of resilience. He emphasized this due to the complexity of defining and processing a review of resilience (Mortazavi & Yarallahi, 2015). Ganbaritalab and Fulahchang (2015) concluded in their research that resilience had a significant negative relationship to addiction susceptibility and a high tendency to addiction. Mullayi Yasavoli and Abdoli (2015) showed that increased resilience reduces the temptation of drug use.

2.4. Mindfulness and Drug Addiction

Mindfulness is “paying attention in a particular way: on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn, 1994). It is also a state of “awareness that emerges through paying attention on purpose, in the present moment, and nonjudgmentally to the unfolding of experience moment by moment (Kabat-Zinn, 2003). Mindfulness can be described as both state and dispositional mindfulness. Dispositional mindfulness is also called trait mindfulness (Kabat-Zinn, 2013). Dispositional mindfulness is defined as the effortless tendency to exhibit the elements of mindfulness and also occurs as an innate trait in the general population (Martin et al., 2018).

Recently, mindfulness-based interventions (MBIs) have shown promising clinical effects in the treatment of substance use disorders. While several studies linked mindfulness to decreased default mode network (DMN) connectivity in meditators, only a few studies investigated its effects in patients with substance use disorders.

In 2019's, “Mindfulness-based modulates default-mode network connectivity in patients with opioid addiction” by Reham Fahmy, Maha Wasfi, Rania Mamdouh et al., aimed to detect changes in DMN connectivity in opiate-dependent patients receiving MBIs during their first month of treatment. Connectivity changes after treatment were related to measures of impulsivity, distress tolerance and mindfulness. Increased mindfulness scores after treatment were found in patients receiving MBIs compared to Treatment-as-usual (TAU). The data suggest that MBIs can be useful during abstinence from opiates. In opiate-dependent patients, distinct functional connectivity changes within the DMN are associated with MBIs.

The use of MBIs for treating addictive disorders is a recent phenomenon (Houlihan, & Brewer, 2016). Literature suggests that MBIs are effective for the treatment of substance use disorders and reduced the susceptibility to relapse (Paulus et al., 2013). It has been assumed that MBIs can be effective in a wide range of addictions (Li et al., 2017).

In “Perceptions about MBIs among individuals recovering from opioid and alcohol use disorders: Findings from focus groups” by Karyn Ogata Jones, Snehal Lopes, Liwei Chen et al., in 2019, attitudes and experiences toward standardized MBIs among individuals recovering from these substance use disorders through a qualitative approach were identified. Participants expressed perceived benefits for MBIs’ non-pharmacological property while expressing concerns related to perceived barriers of cost, scheduling conflicts with work and child/family care needs, and possible lack of provider empathy. The importance of perceived provider empathy and the patient’s social connectedness in SUD interventions was underscored as incentives for participation and retention, providing valuable information for the implementation of MBIs among patients recovering from substance use disorders.

The findings of Kathirasan (2018) suggest positive effects on relapse prevention for addiction and other associated disorders. While the results from these research findings appear to suggest that mindfulness can be favourable to positive change, it is important to (1) understand the uniqueness of this alternative treatment and relief; and (2) review results from trials and other studies. A review and discussion of MBIs provided significant insights into the uniqueness of mindfulness interventions in helping people with addiction.

Yi-Yuan Tang, Rongxiang Tang and Michael I. Posner in “Mindfulness meditation improves emotion regulation and reduces drug abuse” in 2016, the relationship between increased anterior cingulate cortex (ACC) medial prefrontal cortex (mPFC) activity and better self-control abilities in executive functions, emotion regulation and stress response in healthy and addiction populations were tested in a series of randomized controlled trials (RCTs). After a brief mindfulness training (Integrative Body-Mind Training, IBMT), the Positive and Negative Affect Schedule (PANAS) and Profile of Mood States (POMS) was used to measure emotion regulation, salivary cortisol for the stress response and function magnetic resonance (fMRI) for brain functional and diffusion tensor imaging (DTI) structural changes. Relaxation training was used to serve as an active control. These results indicate that promoting emotion regulation and improving ACC/mPFC brain activity can help with addiction prevention and treatment.

“Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) for Co-Morbid Depression in Drug-Dependent Males” by Navidreza Hosseinzadeh Asl & Usha Barahmand in 2014 aimed at examining the effect of MBCT in decreasing depression symptoms in dully diagnosed males (drug dependent males with co-morbid depression). The results suggested that MBCT did contribute to a significant decrease in the depression symptoms of the dully diagnosed individuals. It is recommended that the MBCT be used for treating depression in drug-dependent males undergoing detoxification and treatment for their drug addiction.

Surbhi Khanna and Jeffrey M. Greeson in “A narrative review of yoga and mindfulness as complementary therapies for addiction” (2013) review the philosophical origins, current

scientific evidence, and clinical promise of yoga and mindfulness as complementary therapies for addiction.

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Chapter3: Psychotherapy for Drug Addiction

3.1. Previous Research on the Psychotherapy of Drug Addiction

Luthar and Walsh (1995) in a study named “Treatment needs of drug-addiction mothers: Integrated parenting psychotherapy interventions” reviews the theoretical and empirical literature on salient domains of risk and vulnerability among addiction mothers, to identify critical components of effective intervention programs. They conclude that in treating drug-addicted mothers, there is a need for integrative intervention approaches that take into account their complex treatment needs.

V. Reissner et al., (2012) in “Differences in drug consumption, comorbidity and health service use of opioid addictions across six European urban regions (treat-project)” investigated consumption patterns, comorbidity and treatment utilization of opioid addictions among 599 addictions, in six European cities (Athens, Essen, London, Padua, Stockholm, Zurich). The results of the study show significant interregional difference in opioid addiction which might require different treatment strategies in European countries to handle the problem.

1) Detoxification

This is beneficial because sometimes substance withdrawal can cause unpleasant or even life-threatening physical symptoms. Because detox does not treat the underlying behavioral causes of the addiction, it is typically used in combination with other therapies. The detoxification of metals often involves complex formation between the metal and sulfur-containing compounds. Probably the most-studied group of sulfur-containing metal-complexing compounds are metallothionein. These are small proteins (61–68 amino acids), which have high numbers of cysteines (18–23); up to 30% of all amino acids in the molecules are cysteines, whereas they contain no aromatic amino acids or histidine. The sulfhydryl groups of cysteines react with metals. Virtually all organisms have genes encoding metallothionein (Mario & Salguero, 2007).

2) Cognitive Behavioral Therapy

According to American Addiction Centers, Cognitive Behavioral Therapy (CBT) is a valuable treatment tool because it can be used for many different types of addiction including, but not limited to, food addiction, alcohol addiction, and prescription drug addiction (American Psychiatric Association, 2013). Not only can CBT help Client recognize Client unhealthy behavioral patterns, but it can also help Client learn to identify triggers and develop coping skills (Zlotnick et al., 2003). Non-pharmacological treatment is cognitive-behavioral therapy. Cognitive-behavioral therapy for addicts has been used in several clinical studies and evidence of its clinical effectiveness has been presented. The findings clearly show that

the cognitive-behavioral approach is useful for solving the problems of addiction and helplessness and can be used in the treatment of addiction; it is also effective in reducing recurrence and reducing substance use and addiction (French, et al., 2003).

3) Rational Emotive Behavior Therapy

Rational Emotive Behavior Therapy (REBT) could help Client recognize Clients negative thoughts and give Client ways to combat feelings of self-defeat. The goal of REBT is to help you realize that the power of rational thinking lies within yourself and is not related to external situations or stressors.

According to the ABCD (**A**ctivating event, **B**elief system, **C**onsequence of A & B, **D**isputing irrational thoughts and beliefs) model presented in this approach A as a spontaneous event does not cause C or reaction. Rather, B, which is the type of perception and thinking of the individual, determines the reaction or response (Turner & Barker, 2013).

If we consider A as an accident or event that happens in life, B is the perception and type of thinking and looking of the person or the interpretation and meaning that the person has of that event (belief system and beliefs) And C is the emotional consequence or reaction of the individual in the face of B. In this case, if people have logical thoughts and beliefs, they can provide a logical and realistic interpretation of life events and do not be affected by fleeting emotions, do not get confused and use their abilities well. Whereas thoughts and beliefs can be changed and replaced through education; As a result, direct education can be used to help, guide and grow each person, and irrational thoughts can be replaced by thoughts. Therefore, if we want to use this approach to promote health, we must focus on beliefs and behavioral and emotional dimensions, especially cognitive, and change those (Ogbuanya et al., 2018).

4) Treatment with Medication

Medication can play an important role in recovery when combined with behavioral therapies. Certain medications can be used to reduce cravings, improve mood, and decrease addictive behaviors. For example, the FDA recently approved Lofexidine (Reducing withdrawal symptoms during drug detoxification (such as heroin, morphine and dihydrocodeine detoxification) to help reduce cravings and withdrawal symptoms in patients receiving treatment for opioid addiction. Medications like acamprosate can help reduce drinking behavior (Brugal et al., 2005). In national conferences on the treatment of drug addiction from research to practice in 2005, 2006 and 2007, the data obtained from research presented on the effectiveness of different treatment methods, represent inconsistent and sometimes contradictory results. Perhaps the only common denominator of the research was the emphasis on these two points: 1) Psychotherapy methods combined with medication are more effective than the use of each alone and 2) Behavioral, cognitive, group and other

psychotherapy in comparison with lack of treatment show their beneficial effects on quitting and surviving addiction (National Conference on Addiction Treatment, 2007).

Third-wave behavioral therapies are therapies created by integrating mindfulness techniques with traditional cognitive behavioral therapy techniques (Michalak et al., 2012). Mindfulness emphasizes the interaction between physical, cognitive, and emotional processes (Bowen et al., 2014). It is believed that cognitions and emotions should be considered in the conceptual context of phenomena. Accordingly, instead of approaches such as cognitive-behavioral therapy that correct dysfunctional cognitions and beliefs to correct emotions and behaviors. Here, the patient is taught to accept her emotions in the first place and to increase her psychological flexibility by living in the "here and now". The effectiveness of this treatment increases; because these therapies, they combine cognitive and behavioral techniques with mindfulness (Paul et al., 2013).

3.2. Relapse and Mindfulness-Based Relapse Prevention

Mindfulness-based relapse prevention program (MBRP) is based on the behavioral intervention mindfulness (Bowen and Witkiewitz, 2011). That combines Marlatt's Cognitive-Behavioral Program for preventing the relapse (Marlatt and Gordon, 1985) with mindfulness training using the similar structure with MBCT. MBRP was designed to directly target the negative psychological state of desire and its role in the relapse process. MBRP is largely based on MBCT content and suggests some skills in preventing cognitive-behavioral relapse (e.g., identifying risky situations, coping skills training), and mindfulness meditation. Clients typically meditate for 30 to 40 minutes per session, and they will be asked to meditate at home by meditation CD or about 45 minutes. The purpose of the mindfulness exercises is to increase differential awareness and acceptance with a special focus on emotional and physical discomfort. Therapists teach clients to observe their physical, cognitive, emotional or passionate state without automatic reaction. Relapse prevention based on Mindfulness is a common practice used in the field of addiction, trying to help people in relapse period to avoid relapse and reuse. This method is designed for substance users and uses mindfulness techniques and cognitive-behavioral techniques to help a person learn behaviors that lead to appropriate and alternative behaviors instead of the automatic use of addictive substances. Research has shown that using this exercise program along with other methods of preventing recurrence can be very useful, significantly increasing the probability of success.

When the addicted person goes through recovery, it is important to note the difference between lapses, slips and relapse. Recovery is about learning how to live differently, and that process can involve some slips along the way (Tiberg & Nordgren, 2022).

“Slip” means the person in the recovery period takes a step backwards and uses substances again, but it is a seldom occurrence and doesn’t necessarily mean returning to addiction. Slip is the use of substances or alcohol after it is left but in a transitory way.

Sometimes a slip can turn into a “relapse”, which is longer in duration and more sustained. This can often result in a return to addiction. Relapse is the continuous consumption and re-occurring after withdrawal (Sheikh al-Islami et al., 2021).

Askari, Zakiei and Ali Khani (2011) proved that negative emotional events were a clear predictor of relapse. In general, negative emotional impact has been accepted as a strong predictor of relapse among researchers.

Several studies have since reported that there is a strong correlation between negative emotional effects (such as depression or anxiety) and relapse (Georjellis, 2009). Baker, Piper, McCarthy and Majeskie (2004) have also proven that negative effects are a primary cause of substance abuse and alcohol consumption. According to Baker and his colleagues, drug abuse is provoked by positive and negative passive rules, and drug self-medication cures negative effective moods. Another study, supported by evidence that alcohol consumption is directly related to negative mood states, supports the above.

A variety of psychological and social (psychosocial) strategies for treating drug addictions have been developed, each offering a different level and type of support to persons recovering from drug addiction. Treatments are often mixed and matched to fit the individual, as resources (money and/or health insurance) permit.

MBRP is a new cognitive-behavioral intervention based on the combination of more than two decades of research on relapse prevention for dependence and the mindfulness-based techniques which has been proposed by Witkiewitz et al., (2005) to treat use disorders. The purpose of this treatment is to create awareness and lead people to accept thoughts, feelings and emotions through mindfulness practice and use it as a coping strategy in the face of high-risk situations. Mindfulness is a state of motivated attention and awareness of what is happening at the moment which helps the individual in regulating his emotions (Wash et al., 2009). Grow, Collins, Harrop and Marlatt (2015) conducted a study on 93 alcohol and substance users and found that people who spent more time at home on MBRP exercises experienced less craving for substance and alcohol consumption during periods of 2 and 4 months. Thus, they argue that the use of mindfulness skills as a daily program is effective in reducing abuse and craving.

MBRP is a recently developed mindfulness intervention specifically for substance use that integrates traditional psychotherapeutic relapse prevention techniques (Marlatt & Gordon, 1985; Lancaster., 2006; Brandon et al., 2007) with mindfulness-based meditation practices (Bowen et al., 2011). The addition of these mindfulness meditation practices to traditional relapse prevention techniques is intended to further reduce the risk of relapse by

helping patients with psychological discomfort that often precipitates relapse. Neurologically, mindfulness is hypothesized to reduce activity in circuitry related to craving (Way et al., 2010), and stimulate activity in circuitry related to cognitive self-regulation of behavior (Hasenkamp et al., 2012).

Interventions based on mindfulness, currently in the treatment of substance abuse disorder have been considered (Brandtner et al., 2022). Research shows in the treatment and prevention of relapse of addiction, negative and positive emotional states, desire and temptation, the most important risk factors are recurrence (Witkiewit et al., 2005). in investigating the a etiology of substance abuse and recurrence of forced behaviors, different researchers and theorists have stated low tolerance of discomfort, defects in emotion regulation, emotional avoidance, behavior without thinking and habit, rumination, Bias relative to Material symptoms including low self-efficacy, coping skills deficits, and spiritual emptiness Involved (Blum, 2005). So, in treatment and preventing relapse, using methods that can affect these problems is necessary and seems to be able to increase the effectiveness of treatment. some researchers believe that the use of the mindfulness method, due to factors such as presence at the moment, tasks are hidden in it, such as acceptance, raising awareness, desensitization in combination with cognitive behavioral therapy techniques observation without judgment, confrontation and release traditional, due to the impact on these processes, can reduce the symptoms and consequences after quitting increases the effectiveness of treatment and helps prevent relapse (Witkiewitz, et al., 2005, Breslin et al.,2002).

The results of research by Kazemi-Zahrani and Jalali (2019) showed there was a significant difference between the mean of the experimental group and the control group in the post-test in distress tolerance ($p=0.001$) and temptation tolerance ($p=0.001$). Therefore, MBRP affects distress and temptation tolerance in methamphetamine-dependent patients and also reduces anxiety and intellectual rumination. (Kalivas & Volkow, 2005). By examining the effectiveness of MBRP model training in relapse prevention and coping skills in opioid addicts, showed that training in MBRP model has been effective in preventing relapse and increasing coping skills.

The results of research by Bowen et.al. (2014) Consist of 168 adults with substance use disorders who had recently completed intensive inpatient or outpatient treatment. Assessments were administered pre-intervention, post-intervention, and 2- and 4-months post-intervention. The feasibility of MBRP was demonstrated by consistent homework compliance, attendance, and participant satisfaction. Initial efficacy was supported by significantly lower rates of substance use in those who received MBRP as compared to those in TAU over the 4 month post-intervention period. Additionally, MBRP participants demonstrated greater decreases in craving, and increases in acceptance and acting with awareness as compared to TAU. Results from this initial trial support the feasibility and

initial efficacy of MBRP as an aftercare approach for individuals who have recently completed intensive treatment for substance use disorders.

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Chapter4: Purpose, Composition and Significance of this Paper

4.1. Purpose and Composition of This Paper

The research was performed with the aim to examine the influence of parenting style, personality traits and the effect of mindfulness treatment on drug addiction in Iran.

Experts in the field of drug addiction believe that a large part of a tendency to drug addiction especially in adolescents is related to the problems of the family. In this regard, components such as divorce of parents, the presence of addicted parents, marital disputes and conflicts, the presence of psychological stressors within the family, lack of psychological-emotional support, lack of meeting members' needs, as well as parenting style or parenting behaviors is emphasized.

Therefore, a study in chapter 5 is conducted to examine the influences of parenting style on undergraduate students' tendency to addiction. We took up three parenting styles, these are authoritative (rational authority), authoritarian and permissiveness style based on Baumrind's theory (1971). It is predicted that authoritative style of fathers and mothers, which is considered to be adaptive has negative relationship with tendency to addiction. However authoritarian and permissiveness style, which is considered not to be adaptive have positive relationship with tendency to addiction.

Another factor that increases the risk of drug addiction in adolescents are personality traits. People addicted to drugs are considered to have severe personality weakness and deficiency that educe inappropriate strategies for stressful situations or experiences such as low failure tolerance or impulsive coping instead of appropriate and problem-oriented strategies. Therefore, the second study in chapter 6 is conducted to examine the difference in personality between the addicts and non-addicts. We took up three personality traits, these are extraversion-introversion, neuroticism and psychoticism (Eysenck and Barrett, 1985) and fifteen early maladaptive schemas (abandonment/instability, mistrust/abuse, emotional deprivation, dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, failure, entitlement/grandiosity, insufficient self-control and self-discipline, subjugation, self-sacrifice, emotional inhibition) based on Young and Brown (2005). And the extents of these personality factors of the addicts and non-addicts were compared. It is predicted that the addicts have higher level of introversion, neuroticism and psychoticism and higher level of fifteen maladaptive schemas than non-addicts.

The third study in chapter 7 is also concerned personality. We examine the differences in three attachment styles, these are secure attachment, avoidant attachment and anxious-ambivalent attachment (Collins, 1996), resilience (Conner and Davidson, 2003) and

mindfulness (Brown and Ryan, 2003) between undergraduate students with high tendency to addiction and low tendency to addiction.

It is predicted that students with high level of avoidant and anxious-ambivalent attachment style, which are considered not to be adaptive have higher tendency to addiction than ones with low level, but students with high level of secure attachment style, which are considered to be adaptive have lower tendency to addiction than ones with low level.

On the other hand, people with high resilience are considered to have more power to control their impulsive behavior and have skills such as problem-solving, effective explanation style, self-efficacy, so they can reduce the tendency to addiction. Moreover, high mindfulness enables people to build fundamentally different relationships with experience by creating moment-to-moment awareness and to respond rationally in the face of stressful situations rather than self-reactivity, so people with high level of mindfulness can cope reduce the tendency to addiction.

Therefore, it is predicted that students with high level of resilience and mindfulness, which are considered to be adaptive have lower tendency to addiction than ones with low level.

If people with high tendency to addiction have a training which acquires mindfulness, they are expected to decrease the risk of addiction relapse. The final study in chapter 8 is conducted to examine the effect of mindfulness-based relapse prevention on reducing addiction symptoms such as tendency to drug use, self-injury behaviors and depression of methamphetamine-dependent individuals. It predicted that participants in mindfulness-based treatment reduce these addiction symptoms.

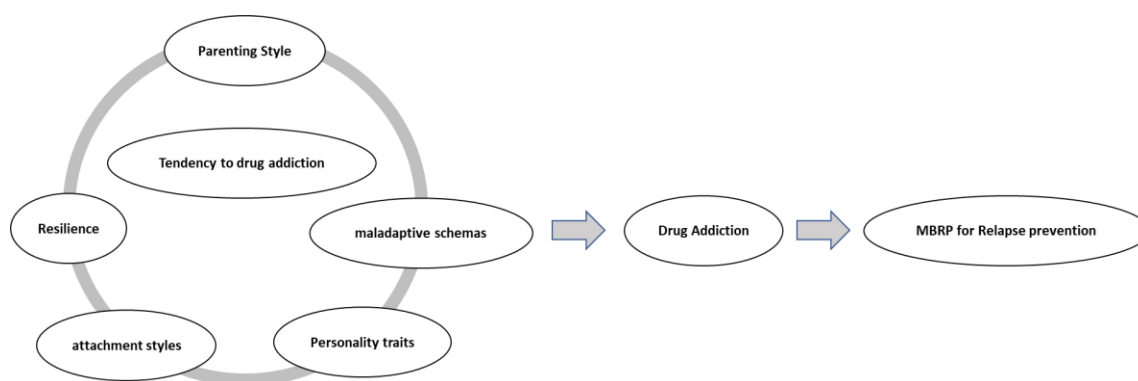


Figure 4-1: Promotional and inhibitory factors of tendency to drug addiction and psychological intervention.

4.2. Significance of This Paper

According to the finding of studies as mentioned above, we can develop and suggest the educational program that prevent to yield adolescents with drug addiction in future.

For example, the programs where, young parents understand and learn appropriate parenting or adolescents understand their own personality and risk for addiction, acquire the way of resilient thinking and behavior, or master mindfulness.

Moreover, if the effectiveness of mindfulness-based relapse prevention treatment for methamphetamine-dependent individuals is confirmed, Application of MBRP for various drug addicts expected to be permeated.

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Chapter 5: Influences of Parenting Style toward University Students' Tendency to Drug Addiction

5.1. Introduction

Today, substance use disorders and their adverse consequences are among the most fundamental public health problems worldwide and a serious threat to society, especially the younger generation. Due to the long-term negative consequences of drug use in different segments of society, especially young people, this issue is of particular interest to clinical psychologists and psychiatrists. Today, the rising trend towards drug use by the younger generation has posed a serious threat to the mental health of this group. Reports indicate that, in the meantime, university students, as part of the young force of society, are not safe from various psychosocial injuries and are sometimes at risk of drug use. Drug addiction is one of the most important social and psychological disorders that affects a person physically and mentally. Such a tendency acts as a misplaced consumption pattern that has many undesirable consequences, including the tendency to consume in inappropriate situations and numerous social, occupational and legal problems. But to what extent are parents and their upbringing involved?

5.1.1. Parenting Style and Its Influences on Adolescence Development

Today, family, as the most important social unit, has a particular position in the studies of social pathology. One of the most important factors of family affecting child development is parenting styles (Bailey et al., 2009).

Some views, which focus on the early experiences of family relationship styles on the formation of deviations and deviant behaviors, confirm that not only the person's personality structure, but also his or her behavioral style in other stages of life is rooted in and planned by early childhood experiences of parents, and also the manner of satisfying psychological and emotional needs in children by parents and their interactions.

Diana Baumrind believes that parenting addresses common differences of parents' attempts to control children and make them sociable (Baumrind, 1991). Some other theorists consider parenting as a set of views regarding child that finally creates an emotional environment in which parents' behaviors get manifested (Darling & Toyokawa, 1997).

According to studies, the attitudes, beliefs and behaviors of parents, which are expressed in the form of family patterns or parenting styles, are a very important factor in the development of children's personality and identity, as well as their tendency to risky behaviors and substance abuse. Growing up in a warm and intimate family environment is

positively associated with healthy mental development during adolescence. According to personality studies and theories, the tendency to risky behaviors and substance abuse is rooted in childhood and is particularly influenced by early family life and parenting styles (Stephenson & Helme, 2006).

Baumrind noticed that preschoolers exhibited distinctly different types of behavior. Each type of behavior was highly correlated to a specific kind of parenting. Baumrind's theory is that there is a close relationship between the type of parenting style and children's behavior. Different styles of parenting can lead to different child development and child outcomes.

5.1.2. Theories Related to Parenting Styles

1) Gordon's parenting styles

Gordon (1980) divides parents into three categories based on the type of child treatment.

A) Winning Parents

Winning parents are those who want to win in any way in the relationship and effort between themselves and their children. These parents impose their ideas and opinions on their children, restrict them as much as possible, give those orders, and severely punish them.

B) Losing Parents

This group stands in front of the winning parents and gives their children a lot of freedom. In this group, if there is a conflict between the needs of parents and children, this conflict will be resolved in favor of the children.

C) Hesitant Parents

These parents sometimes win and sometimes lose in relation to the child. Sometimes they restrict their children and sometimes they set them free. This group of parents does not have a consistent attitude towards their children and in most cases they have a double feeling and do not really know what they want to do.

2) Runner's Parenting Style

Runner (1999) proposed the theory of parental warmth or parental rejection-acceptance. This theory predicts the effect of parental warmth (rejection-acceptance) on the emotional, cognitive and behavioral development of children. Parental warmth refers to the quality of the emotional bond between parents and their children and the verbal and non-verbal behaviors that parents express toward their children. Parental warmth is depicted as a bipolar continuum, from acceptance to rejection (Ildiz & Ayhan, 2020).

Acceptance is an emotion of care or love that parents can express to their children. Parental affection can be expressed through physical contact, kissing, hugging, and cuddling, or through words such as admiration, praise, and praise. Conversely, rejecting or not rejecting

these behaviors and feelings and the existence of behaviors and feelings that are physically or psychologically harmful. Rejection is characterized by hatred, anger, indifference, inattention, and indiscriminate rejection (Rothenberg et al., 2022).

In contrast, low parental warmth with problems such as internalizing and externalizing emotions, low self-esteem, poor psychological function, running away from home and delinquency (Heshmati et al., 2023).

Results of the study by Heidi et al., (2021) indicated that the more supportive and nurturing the parent, the lower the levels of psychopathic traits, whereas the more hostile the parent, the higher the levels, respectively. In addition, self-reported offending was predicted by higher parental hostility and lower maternal warmth.

In young offenders' parental warmth may protect against development of psychopathic traits in adolescence, whereas parental hostility may strengthen these traits. Warm parenting style at this developmental period associates with lower psychopathic features among young offenders possibly lowering the risk of further criminal activity.

3) Baumrind's Parenting Style

Baumrind's (1979) classification is derived from in-depth and multivariate analysis of parent-child interaction. Baumrind (1966) observed and evaluated mothers and fathers as they worked with their 3- and 4-year-olds on constructive homework. This data was collected at home as well as in laboratory settings. Baumrind (1966) also conducted interviews with parents. Dimensions measured by him were parental control, reasonableness of parent's requests, parent-child relationship and parental affection (Beer, 2004). The analysis of child and parent behavior revealed three distinct interactive methods: Authoritative, authoritarian, Permissiveness.

A) Authoritative Parenting Style

Baumrind first introduced the concept of Authoritative parenting style (authoritative). According to Baumrind (1966), the authoritative parents provide guidance to their children on issue oriented and rational manner. That is with authoritative style the level of demandingness is higher in this parenting style, parents usually welcome effective communication as well as effective relationship between them (Piko & Balazs, 2012). Points out that Authoritative parents display more demandingness and responsiveness by exhibiting more supportive towards harsh behavior. These parents encourage verbal give-and take, express reasoning behind rules and use power, reason, and shaping to strengthen objectives.

This style of parenting is more associated with positive adolescent outcomes. As a result, it is found as most beneficial and effective style of parenting among most of the families. In other words, Authoritative parenting style fosters positive well-being of adolescents Hoskins (2014).

Authoritative style, because of adequate monitoring and support create a safe and reliable environment, which is one of the most fundamental conditions for healthy growth of the individual. Therefore, person has independence, self- confidence and is realistic and competent in this condition and can establish friendly relations with peers, and is happy and energetic, thus, better able to cope with stressful situations and less susceptible to risky behaviors (Terry, 2004).

B) Authoritarian Parenting Style

Baumrind (1987), Mc Cobby and Martin (1983), Volk et al., (1989) and Smart et al., (1990) based on Robert and Ironto (1994), have repeatedly shown that authoritarian parents with rigid Law enforcement who play extreme-role in the parent-child relationship are an extreme level of psychological control associated with social isolation, lack of social competence, and substance use in adolescents.

The authoritarian parents attempt to evaluate, shape and control the attitudes as well as behavior of their children in line with set standards of conduct, known as absolute standard. Points out that authoritarian parents usually fail to come up with reasoning behind such rules. According to Hoskins (2014), authoritarian parents exhibit low responsiveness, and they are highly demanding. In this style of parenting, parents emphasize on conformity and obedience and thus expect that they are obeyed without explanation in a less warm environment. Furthermore, authoritarian parents display low level of engagement and trust toward their children.

Authoritarian parenting style is associated with negative behavioral outcomes, including aggressive behavior, decreased emotional functioning, depression and low level of self-confidence (Bronte et al., 2006).

C) Permissiveness Parenting Styles

According to Baumrind (1966), permissive parents attempt to behave in acceptant, affirmative and non-punitive manner toward their children's impulses, actions and desires. Permissiveness parents are those that show very low level of involvement as well as strictness with their child (Kremers et al., 2003).

According to Hoskins (2014), permissive parents can be characterized as exhibiting low level of demandingness and high level of responsiveness, whereas Permissiveness parents are neither responsive nor demanding. They behave in a manner that is more affirmative toward the impulses, actions and desires of adolescent while consulting with them about family decisions.

Permissiveness style is similar with neglecting style. Some studies in juvenile delinquency, such as Steinberg (1987), have shown that parental negligence, even with

warmth and intimate, is a strong predictor of adolescent immaturity and weakness, especially in early and mid-adolescence.

Children of Permissive parents have high social competence and self-esteem, but have low motivation for progress and low involvement with educational issues and high quality in behavioral problems and substance use (Pellerin, 2005).

5.1.3. Parenting Style and Tendency to Drug Addiction

The family is considered as the most fundamental and the most basic shaping and underlies drugs abuse (Sohrabi & Hasani, 2007).

Some researchers emphasize the importance of parental influence in the right choice of adolescents. Bahr et al., (1995) showed that adolescents whose friends use drugs are also more likely to use. Family variables may affect the choice of friends and thus put them at risk for substance abuse.

Adolescents whose families use alcohol and drugs are more likely to use substances and to choose friends who use drugs. When parental control is high, adolescents are less likely to choose friends who use drug addiction, so parents with strong influence on adolescents influence peer selection pressure by influencing and controlling friend selection.

Parental alcohol use, attitudes to adolescent drinking, and supervised drinking have repeatedly been shown to increase unsupervised drinking and other drug use in adolescents (Mcmorris et al., 2011). However, not only substance-specific parenting practices are of importance, but general aspects of parenting may also contribute to the adolescents' propensity to engage in substance use.

Parenting styles and the application of specific parenting behaviors are also important in the upbringing of children and adolescents. If parenting styles are not enforced properly then parents do not develop a healthy form of attachment with their child, which can result to deviant behavior such as drug abuse.

A recent review called for more longitudinal research on this topic as most previous studies were cross-sectional, and also because the cultural context may influence associations between parenting style and drug addiction (Becona & Bolkan and Mason et al., 2010). Also, few previous longitudinal studies controls for other aspects such as peers, delinquency and parental substance use, all of which may influence associations between parenting styles and substance use. Furthermore, results of the study Berge, Sundell, et al., (2015). Entitled: Role of parenting styles in adolescent substance use.

In investigating the role of parenting styles in adolescent substance use in Sweden, states that overall parenting style as well as specific parenting styles influence drug use behavior in children.

Wood, Reed, Michelle, and Brand showed that negligent parenting increases alcohol consumption (Hayes et al., 2004). In a study by Patok-Peckam and Morgan-Lopez (2009), they found that careless parents were directly involved in general and specific control processes and indirectly in substance and alcohol use in their children.

Berg, Sundel and Hakanson (2016) conducted longitudinal studies in Sweden on the role of parenting styles in adolescent substance use, and the findings of this study showed that negligent parenting style is associated with worse consequences of substance use and Authoritative parenting style with less alcohol use.

Chilcutt and Anthony (1995) found that children with the least control begin to use drugs at an early age. The risk differentiation of starting alcohol, tobacco, or other substances use is related to parental control levels, the greatest of which for children less than 11 years old. At older ages, the risk of substance use cannot be differentiated, although there is a risk of starting to use substances such as marijuana, cocaine, and inhalants for adolescents who receive lower levels of control in middle childhood.

Dision, Patterson and Ryde (1988), based on Robert and Ironto (1994) stated that, the ability of parents to monitor and control their children prevents adolescents from experiencing substance abuse and other delinquent behaviors.

Christopher et al., (1993) also showed that children whose parents spend more time caring for their children are less likely to engage in risky behaviors.

Among the risk and protection factors in addiction, relationship with the family environment and with peers stand out (Mielgo et al., 2012). These relationships affect emotional modulation: a low capacity to regulate them implies an increased risk of abuse of alcohol and other substances (Ceyhan et al., 2019).

Some researchers emphasize the importance of parental influence in the right choice of adolescents. Bahr et al., (1995) showed that adolescents whose friends use drugs are also more likely to use. Family variables may affect the choice of friends and thus put them at risk for substance abuse. Adolescents whose families use alcohol and drugs are more likely to use substances and to choose friends who use drugs. When parental control is high, adolescents are less likely to choose friends who use drugs, so parents with strong influence on adolescents influence peer selection pressure by influencing and controlling friend selection.

In a study conducted by Ortaref and Downes between 1998 and 2001 on 3,589 adolescents aged 12 to 17 years, adolescents with too much responsibility without parental control at home, and parents were less present at home (negligence), and adolescents with too much responsibility and unrealistic expectations (strictness). They first tested the relationship between the second approaches (strictness) with adolescents' involvement in

risky behaviors; As a result, 30 to 40 percent of adolescents reported using illegal substances such as cigarettes and alcohol, less than about 17 percent reported using marijuana and 5 percent reported illegal substances. The findings of this study on children who had more authority (strictness) and whose parents were more busy and often away from home, showed that they were significantly more likely to engage in risky behaviors. The study also found that both forms of parental control, whether too much responsibility and strictness or too much responsibility and negligence, lead to risky behaviors.

Some studies in juvenile delinquency, such as Steinberg (1987), have shown that parental negligence, even with warmth and intimate, is a strong predictor of adolescent immaturity and weakness, especially in early and mid-adolescence. For example, research by Force and Rojek (1983) has shown that such parents have little knowledge of where their adolescents use drugs.

Cohen and Rees (1997) showed that adolescents' understanding of the parenting methods used in their homes is related to substance use among them. Adolescents whose parents are mostly rationally authoritative (they know what they are talking about), not easy-going (those with clear expectations), less authoritarian (do what I say) and are academically superior, are less likely to use drugs.

Overall, A recent review shows that most studies find that Authoritative parenting is associated with the best outcomes regarding adolescent substance use, and neglectful parenting with the worst (Becona et al., 2015).

This parenting style tends to have a higher level of responsiveness, it implies that a responsive parent is more likely to define and determine rules associated with family, while encouraging the adolescents to consider it as a resource (Johnson & Kelley, 2011).

Specifically, many studies have shown that Authoritative parenting is associated with less use of alcohol, tobacco and illicit drugs in children and adolescents (Becona, et al., 2015; Chassin, et al., 2005).

Authoritative parenting practices, as a supporting factor, that is the factor that increases the probability of immunity against drug abuse and has been proposed as the modulators of drug use, attitude toward drugs and consumer sentiment (Stephenson & Helme, 2006).

Authoritative parenting style was associated with less frequent drinking. Association with deviant peers, delinquent behavior, provision of alcohol by parents, and previous use of other substances were associated with drug addiction outcomes at follow-up (Hakansson, 2015).

On the other hand, children of authoritarian parents show lower rates of behavioral, and substance use problems, along with lower social competence and self-esteem (Pellerin, 2005).

Baumrind (1987), Mc Cobby and Martin (1983), Volk et al., (1989) and Smart et al., (1990) based on Robert and Ironto (1994), have repeatedly shown that authoritarian parents with rigid Law enforcement who play extreme-role in the parent-child relationship are an extreme level of psychological control associated with social isolation, lack of social competence, and substance use in adolescents.

Children of authoritarian parents generally report more substance use than children of rational authoritative parents, but some studies found no difference or even an inverse association (Becona, et al., 2015).

Findings related to the permissiveness parenting style are mixed; some studies have shown that permissiveness parenting is associated with higher rates of substance use, while others demonstrate the opposite association (Adalbjarnardottir & Hafsteinsson, 2001; Shakya, Christakis & Fowler, 2012). Permissiveness parenting style is almost consistently found to be associated with higher rates of drug addiction (Adalbjarnardottir et al., 2001).

The results from a Swedish longitudinal cohort study showed that permissiveness parenting style was associated with worse drug addiction outcomes across all substances. After adjusting for other proximal risk factors in multivariate analyses, parenting style was found to be unrelated to drug addiction outcomes with one exception.

Permissiveness parenting style in dealing with the crime and aggression is related to adolescences. Poor monitoring, neglect and indifference are all part of the Permissiveness parenting style that has a decisive role in crime and as a result, these individuals with a higher frequency of deviant behaviors such as drug and alcohol use, abnormal behaviors, impulsive, emotional and misconduct or criminal acts are involved (Aunola & Nurmi, 2005).

5.2. Purpose of This Study

The aim of this study is to investigate the role of parenting styles in addiction tendencies of adolescences. For this purpose, the influence of three parenting styles (authoritative, authoritarian, permissiveness) on adolescences from Bamrind's point of view in the tendency to addiction was examined. We use Addiction Susceptibility Questionnaire (ASQ) as a measure of tendency to drug addiction of adolescence.

We make three hypotheses on basis of previous studies below.

Hypothesis 1: Authoritative style of parents reduces tendency to drug addiction.

Hypothesis 2: Authoritarian parenting style of parents raises tendency to drug addiction.

Hypothesis3: Permissiveness parenting style of parents raises tendency to drug addiction.

In addition, we examine the difference by gender of parents and students in the influences of parenting style on tendency to drug addiction.

5.3. Method

5.3.1. Participant

This research received an ethic check and approval from the committee of the Islamic Azad University. A total of 384 students from Islamic Azad University students were

Served as participants of this study. Male students were 200 (52.1%) and female students were 184 (47.9%).

5.3.2. Measures

1. Addiction Susceptibility Questionnaire for Adolescents (ASQ-AV)

The ASQ-AV was developed by Vahdat and Zeinali (2012) to evaluate the tendency of teenagers to get addicted. ASQ-AV consisted of 50 two-option questions (yes/no) with scores ranging from 0 to 50 (Shohani et al., 2021).

To get the total score of the questionnaire, add the total scores of all the questions together. Higher scores indicate higher addiction potential and vice versa

In Zinali's research (2013), the criterion validity of the questionnaire was estimated at 0.66 through the simultaneous implementation of the questionnaire with the SURPS substance use risk profile scale.

The reliability of the ASQ-AV, using the Cronbach's alpha and Guttman's split-halves method, was estimated at 0.87 and 0.82, respectively (Vahdat & Zeinali, 2012)

2. Parental Authority Questionnaire (PAQ)

PAQ was developed for the purpose of measuring Baumrind's (1971) authoritative, authoritarian, and permissive parental authority prototypes (1991). Each parental authority prototype consists of 10 items, and the scale employs a five-point Likert scale. The questionnaire has been found to demonstrate good discriminant and criterion validity as well as good internal consistencies for each of the subscales (Buri, 1991).

The reliability of the questionnaire obtained by Buri (1991) is as follows. According to Cronbach's $\alpha=.80$ for the permissiveness mother, $\alpha=.86$ for the authoritarian mother, .78 for the authoritative mother, .77 for the permissiveness father, .85 for authoritarian father, .92 for authoritative father. Assadi et al., (2007) translated and adapted for Iran, and showed high internal consistencies; Cronbach's alphas were .82, .86, and .75 for authoritarian, authoritative, and permissive subscales, respectively. They conducted interview with 10% of the final sample randomly and blindly. The correlations between the scores on the questionnaire and the interviews were generally adequate (.90, .88, and .57 for authoritarian, authoritative, and permissive subscales, respectively).

5.3.3. Investigation Procedure

Inside the classroom of Tehran Islamic Azad University, students were given a questionnaire and explained it is voluntarily to answer it. Their personal information was strictly confidential, and they were taken home to complete and answer the questionnaire. The questionnaires were returned to the researcher.

5.4. Results

5.4.1. Basic statistics

Table 5-1 show that tendency to drug addiction by gender, the mean of tendency to addiction among males was 13.70 and among females was 11.30 out of a score of 50. Result of the t-test showed that there is a significant difference between male and female ($t(266) = 7.38, p < .001$). Therefore, the addiction tendency of male is showed to be higher than female.

Table 5-1: Tendency to drug addiction by gender

	Gender	Frequency	Mean	SD
ASQ	Male	165	13.70	8.24
	Female	103	11.30	4.22

Table (5-2) and Table (5-3) were the mean score of PAQ on father and mother. Comparison of the means shows that the highest mean of parenting style was authoritative in both of father (29.70) and mother (30.39). And the mean of authoritarian style and permissiveness were tended to be lower than authoritative in both of father and mother.

Table 5-2: Descriptive statistics in Father's and Mother's parent styles (n=268)

Variable	Father		Mother	
	Mean	SD	Mean	SD
authoritative	29.70	2.34	30.39	3.04
authoritarian	17.75	3.11	16.53	1.38
permissiveness	17.75	2.07	17.37	2.11

5.4.2. Confirming the hypotheses

Considering that the main hypotheses of the research were to examine the effect of parenting styles on students' tendency to addiction multivariate regression was used to investigate propose of this study. An independent variables of parenting styles (authoritative, authoritarian, permissiveness) and a dependent variable is tendency to addiction.

(1) The effect of parenting style on tendency to drug addiction in all students

We conducted multivariate regression analysis where independent variable were fathers parenting style and dependent variable where tendency of addiction of all subjects. The result of the analysis showed on table (5-3).

Table 5-3: The effect father's parenting style on student's tendency to drug addiction

	β	F	R	R^2
authoritative	-.32**	22.76	0.38**	0.15
authoritarian	.13*			
permissiveness	.07			

$p < .01^{**}$ $p < .05^{*}$

The result showed that authoritative had negative effect ($\beta = -.32$, $p < .01$) and authoritarian style had positive effect ($\beta = .13$, $p < .03$) on student's tendency of addiction. Permissiveness style had no significant and effect. Given that the value of R is .38 and is significant at the level of 1%. The value of R^2 is 0.15. So parenting styles can explain 15% of the variance in tendency to drug addiction.

We conducted multivariate regression with independent variable were mothers parenting Style and dependent variable was tendency of addiction. The result of the analysis showed on table (5-4).

Table 5-4: The effect of mother`s parenting style on student tendency to drug addiction

	β	F	R	R^2
authoritative	-.40**	53.36	0.40**	0.16
Authoritarian	.02			
permissiveness	.05			
$p < .01^{**}$ $p < .05^{*}$				

The result showed that authoritative had negative effect ($\beta = -.40$, $p < .01$), but authoritarian style and permissiveness had no effect on student`s tendency to drug addiction. Given that the value of R is .40 and is significant at the level of 1%. The value of R^2 is .16, so parenting styles can explain 16% of the variance in tendency to drug addiction.

(2) The effect of father`s parenting style and tendency to drug addiction by gender

We conducted multivariate regression analysis with independent variable were fathers parenting style and independent variable was tendency to drug addiction of male students Table (5-5).

Table 5-5. The effect of father`s parenting style on the of male student`s tendency to addiction

	β	F	R	R^2
authoritative	-.41**	32.71	.41**	0.17
authoritarian	.02			
permissiveness	.06			
$p < .01^{**}$ $p < .05^{*}$				

The result showed that authoritative had negative effect ($\beta = -.41$, $p < .01$) but permissiveness and authoritarian style had no effect on male student`s tendency to drug addiction. Given that the value of R is .41 and is significant at the level of 1%. The value of R^2 is .17. So parenting styles can explain 17% of the variance in tendency to addiction. We conducted multivariate regression analysis with the dependent variable Fathers parenting style and dependent variable was tendency to addiction of Female students. Table (5-6).

Table 5-6. The effect of father's parenting style on the female student's tendency to drug addiction

	β	F	R	R^2
authoritative	-.24*	11.30	.43**	0.18
authoritarian	.29**			
permissiveness	.04			

$p < .01^{**}$ $p < .05^*$

The result showed that authoritative had negative effect ($\beta = -.24$, $p < .05$), on the other hand, authoritarian ($\beta = .29$, $p < .01$) has positive effect on female student's tendency to drug addiction. Permissiveness had no effect. Given that the value of R is 0.43 and significant at the level of 1%. The value of R^2 is 0.18, so they can explain 18% of the variance in female student tendency to drug addiction.

(3) The effect of mother's parenting style and tendency to drug addiction by gender

We conducted multivariate regression analysis with the dependent variable mothers parenting style and dependent variable was tendency to addiction of male students Table (5-7).

Table 5-7. The effect of mother's parenting style on the male student tendency to drug addiction

	β	F	R	R^2
authoritative	-.41**	38.32	.44**	0.19
authoritarian	-.07			
permissiveness	.04			

$P < .01^{**}$ $p < .05^*$

The result showed that authoritative ($\beta = -.41$, $p < .01$). Authoritarian and permissiveness have no significant and effect given that the value of $R = .44$ and significant at the level of 1%. The value of R^2 is 0.19, so they can explain 19% of the variance in male student tendency to drug addiction.

We conducted multivariate regression analysis with the dependent variable mothers parenting style and dependent variable was tendency to addiction of female Table (5-8).

Table 5-8. The effect of mother's parenting style on the female student tendency to drug addiction

	β	F	R	R^2
authoritative	-.26**	14.83	.36**	0.13
Authoritarian	-.12			
Permissiveness	.13			

P<.01** p<.05*

The result showed that authoritative ($\beta = -.26$, $p < .01$) and had both negative effect on female student's tendency to drug addiction. Given that the value of R was -.36 and significant at the level of 1%. The value of R^2 is 0.13, authoritarian and permissiveness has no effect so they can explain 13% of the variance in female student tendency to drug addiction.

5.5. Discussion

5.5.1. Authoritative style

At first, we examine hypothesis 1: Authoritative style reduces tendency to addiction.

The results of data analysis showed that there is a relatively strong and negative relationship between authoritative parenting style (rational authority) in both of father and mother, and addiction tendency in both of male and female students. So hypothesis 1 was supported. It shows authoritative style of parents which are characterized rational control and support, and it inhibits addiction tendency of adolescence such as dissatisfaction with life, bad relationship and risky behaviors.

The effect of the parenting style was almost the same in father and mother it can be stated that parents with authoritative parenting style, due to adequate and appropriate control and support, has created a safe and reliable environment, which is one of the most basic conditions for healthy growth (Stephenson & Helme, 2006). They convey cognitive facts and insights to their children and are more willing to accept the child's reasons for rejecting a guideline. These parents are good speakers and often use reasoning and logic to obey, as well as use verbal communication to agree with the child, and they are also resilient to the child's anger. Authoritative parents respond to their children's efforts to gain support and attention and use more positive reinforcement. These children are described as realistic, competent, and content, self-reliant, have friendly relationships with peers, cope well with stress, are lively and energetic, and are less prone to high-risk behaviors (Pellerin, 2005).

5.5.2. Authoritarian Parenting Style

We examine Hypothesis 2: authoritarian parenting style raises tendency to addiction. The results of analysis showed that there is a positive relationship between authoritarian parenting style of father and addiction tendency of female students. So Hypothesis 2 was supported only about the relation of fathers and daughters. It shows father's authoritarian style such as punishing restrict control, no explanation and no support raises the addiction tendency of only female students. Such fathers with inappropriate disciplinary laws at home and unreasonable strictness, continuous and numerous commands and prohibitions deprive from their children of the right to make any correct and reasonable decisions they make a lot of rules and expect their children to follow them to the fullest (Hardi Yavar & Jarick, 2009). They cause social withdrawal, lack of self-confidence, dry behaviors and lack of peace and satisfaction in their children (Bamernid, 1971). They are the product of authoritarian families, authoritarian children, belligerents, low self-esteem, liars, punitive hypocrites, lack of creativity, depression, anxiety, academic failure, isolationism, and a tendency to engage in risky behaviors (including addiction).

But the result also showed negative effects of authoritarian style on addiction tendency was relatively weak.

5.5.3. Permissiveness Parenting Style

At last, we examine Hypothesis 3: Permissiveness parenting style raises tendency to addiction.

The results of the analysis showed that there is a no significant relationship between permissiveness parenting style in both of father and mother, and addiction tendency in both of male and female students. Explaining the result, it can be stated that the permissiveness parenting style are characterized neglecting for example lack of accountability, concern, expectation, guidance, low expectations of them, even if they have very limited rules.

(Pellerin, 2005). On the other hands, the parents with the style tend not to control and punish and also allow children's' choice and provide everything for children. Because of this dual character, permissiveness parenting style might not raise addiction tendency.

5.5.4. Difference between the Genders of Student on Tendency to Drug Addiction

There was no different between male and female students about the influences of authoritative style and permissiveness style. Authoritative style of father and mother tended to decrease the addiction tendency of both of male and female students, and permissiveness style of father and mother had no effect on the addiction tendency of male and female

students. But only authoritarian style of father was showed to influence on the female students' tendency to drug addiction.

Generally, the severe and dominating parenting by fathers would be more intense than by mothers, and female children would be more vulnerable to such parenting than male children, so that female students are susceptible to influence from fathers' authoritarian style.

It can be stated that parents with Authoritative parenting style, due to adequate control and support, have created a safe and reliable environment, which is one of the most basic conditions for healthy growth. They pay attention to children and inside to their need. they and insights and are more willing to accept the child's reasons for rejecting a guideline and These parents are good speakers and often use reasoning and logic to make others obey, as well as use verbal communication to reach agreement with the child, and they are also resilient to the child's anger and rage. They respond to their children's efforts to gain attention and support and use more reinforcement.

Therefore, their children would attain good features such as self-belief and self-control independence have friendly relationships with peers, they can cope well with stress, are lively and energetic, satisfied with their life and are less prone to high-risk behaviors such as drug addiction.

At contrast, children who expose to inappropriate parenting practices like Authoritarian style is prone to high-risk behaviors. In other words, when a person has to grow up in an environment with warm and responsive parents, but adequate control, this style of parenting can have consequences such as low addiction tendency of their children.

5.6. Limitations

In this research measuring parenting style and addiction tendency were simultaneously executed so the interact or relationship showed don't mean causality between parenting style and addiction tendency.

One of the limitations of this research is the limitation of the type of study after the event, which examines the phenomenon after the occurrence. Therefore, it was not possible to control and investigate the interfering and disturbing variables at the time of research, so other tools such as in-depth observation interviews and other tests should be executed.

Since the present study was conducted among the students of the Tehran Islamic Azad University, in order to the generalization of the result more research with larger statistical population is desirable.

The environment of the sample of this research is different from ordinary Iranian adolescence; they could have lower tendency to addiction because of higher socio-economic status.

Permissiveness style contains the negative meaning such as neglecting or lack of concern and the positive meaning such as no punishment or allowance of child's action, so the scale should be reexamined.

Parenting style is conceivable to be relevant to other family factor such as divorce, orphan, marital conflict of parent lack of social support from community, there might be the influence of such a factors on the correlations in the research.

This research shows that parenting style as an environment factor can explain adolescences tendency to drug addiction, but it can explain only 13%(female) ~19%(male) of variant in tendency to drug addiction. The research under factor should be done for example personality traits, attachment style of adolescences who was tendency to drug addiction.

5.7. Practical Suggestions

This research shows the importance of parenting style for adolescences with drug addiction and could identifies in proper and effective parenting style for preventing of tendency to drug addiction, this finding could be useful for practice of parenting training and family therapy.

In this session, some of its audiences can be families and parents with children who has addiction tendency recognize their own parenting style guided to adopt proper approaches authoritative parenting. On the other hand, education of children by determining and recognizing their parents' parenting style, is also useful to discover and care children who expose to terrible parenting.

Considering the role of parenting style in reducing the tendency to addiction in adolescents, holding workshops and meetings in clinics and schools to teach the proper methods of parenting (authoritative) and effective communication between children are commended.

5.8. Conclusion

The result of the research showed that, authoritative style of father and mother reduce the tendency to drug addiction of the male and female students, but permissiveness style have no effect on it, and authoritarian style of father have the effect on only female students.

If parents choose authoritative style in education their children, then it might be more likely to prevent tendency to addiction adolescence.

The present study shows the role and importance of the parents in the tendency to addiction and also the contribution of each parenting style in the tendency to addiction. The

findings of this study reveal some notable points. The most important thing is that the balance of control and love brings the best results for children. Father and mother who have both moderate control and high love causes the least tendency of addiction, and the authoritarian father who has low love and high control cause the higher tendency of female.

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Chapter 6: Comparison with Personality Traits and Early Maladaptive Schemas between the Addicts and the non-Addicts

6.1. Introduction

6.1.1. Personality and its Influences on Addiction

One of the variables that can be related to addiction is personality traits that play a decisive role in the obvious and obvious behavior of a person (Mitchell & Potenza, 2019). The character is derived from the Latin word *persona*, which refers to the mask that the artisans wear in the play (Cervone & Pervin, 2022). Character can be defined as an enduring and unique set of traits that may change in different situations. In his definition, Sheldon states: Dynamic organized personality refers to the intellectual, emotional, motivational, and physiological aspects of the individual (Bleidorn & Hopwood, 2019). Cattell's definition of personality is what makes it possible to predict what a person will do in a given situation. He believed that personality is composed of traits or factors that can be obtained through factor analysis (Novikova et al., 2021).

McDonald, Jouriles suggested that this the five major factors of personality. These are Norticism (N), called nervousness or emotional instability, extraversion (E), openness to experience (O), agreement (A), and conscience (C) (Sutin et al., 2019).

Some theorists believe that many people are more at risk for substance abuse because of their addictive personality and psycho-personality traits. Studies have shown that personality traits as predisposing and modifying factors play a prominent role in the onset of substance use, persistence, prevention and treatment of addiction (Arpaci & Kocadag Unver, 2020).

Research has shown that personality traits are important pathological factors in the tendency to high-risk behaviors such as smoking, alcohol consumption, substance use and unsafe sexual activity (Cook et al., 2020). The personality traits of drug addicts are not only due to drugs, but addicts, before addiction, had many mental and personality disorders that appeared and became more destructive after addiction, so the problem of addicts is not only drugs. Rather, it is the relationship between his personality and addiction, and the personality structure of some people is more conducive to accepting addiction than others. Research shows that there is a significant direct relationship between personality factors and substance use tendencies. People who have positive attitudes and beliefs or drugs are more likely to use and become addicted than those who have negative attitudes. These positive attitudes usually

include gaining greatness and individuality, relieving physical pain and fatigue, gaining peace of mind, the ability to use drugs without the possibility of addiction (Skóra et al., 2020).

According to Zuckerman, boys between the ages of 15 and 30 are more excited than girls, and it is in this age range that people seek out new and diverse experiences and experience substance abuse. The results of research on Tehran adolescents showed that excitement, high novelty, impulsiveness, poor self-control, low responsibility and poor remediation are among the risk factors for starting to use drugs (Zuckerman & Kuhlman, 2000).

Individuals with low agreeability traits have more impulsive behaviors, higher irritability, and less emotional stability. They are negative, intolerant, militant, selfish, suspicious of the intentions of others and competitive. Low scores on this factor are associated with narcissistic, antisocial, and psychotic personality disorders (McCray & Costa, 2004). Therefore, people's tendency towards addiction and substance use can be well explained based on the low level of agreement, and research confirms that by increasing agreement and adaptation in normal people and addicts with different treatment methods, especially psychotherapy, the tendency can be Drugs and the rate of recurrence and motivation to make the wand irreversible smoother and more accessible in individuals (Moghanloo, et al., 2022).

And openness to experience is a trait that often sparks curiosity about the outside and inside world. People who are curious about the world around them often experience more positive and negative experiences. Although being open-minded to experience is related to various aspects such as divergent thinking that is a factor in creativity, but unwavering flexibility in dealing with new issues, it will be possible to fall into the trap of addiction and other issues (Salimi et al., 2015).

A study by Cloninger et al., Shows that high novelty and low harm avoidance predict the onset of substance use in adolescents (Cloninger, 1994). One of the personality factors whose role in substance abuse has been studied in detail is Sensation Seeking. Excitement was first introduced by Zuckerman in 1964. Excited people are those who seek excitement, diversity, novelty and new experiences in life and welcome dangers. Numerous studies have examined the relationship between arousal and substance abuse and have concluded that substance use is associated with high scores in the arousal factor. Zuckerman et al., found that 74% of high-excited students use one or more addictive substances. This rate is about 23% for students with lower excitement. The use of substances such as amphetamines, marijuana, cannabis and LSD is strongly associated with arousal (Zuckerman & Kuhlman, 2000).

People who are socially isolated and shy and have difficulty communicating with others may become addicted to overcome feelings of weakness, insecurity and loneliness and to gain peace and confidence. Among the personality traits that have received less attention in relation to addiction is psychological hardiness. Cubasa has introduced this concept as a moderating factor against stressful life events. Psychological toughness includes the three

basic components of control, commitment, and challenge (Ebrahimzade & Sohrabi, 2021). Madi et al., showed that stubbornness is negatively related to alcohol and other substance use. Stubbornness reduces the destructive effect of parental alcoholism on family comfort and family functions. People with stubbornness face problems directly instead of using avoidant coping methods such as denial. To be. These people take life events for granted. But people with low stubbornness feel helpless and threatened by events and have less control over them, and as a result turn to drugs for comfort. The researchers found that psychological toughness and its components were lower in addicts than in those without a history of substance abuse (Sepehri & Kiani, 2020).

Emotional Intelligence is a concept that has been studied in relation to various topics, including addiction. Emotional intelligence is a set of non-cognitive skills, talents and abilities that increase people's success in coping with stress. It is also an effective factor in academic, career and interpersonal success. Research has shown that emotional intelligence, which is closely related to the ability to regulate emotions, is negatively related to substance use. Inadequate emotional development, difficulty organizing behavior and emotion, and experiencing negative emotions are also characteristics of people who are addicted to drugs (Henning et al., 2021).

Research conducted in Rasht showed that the drug addicts' group has less emotional intelligence than the control group. In addition, high emotional intelligence has a supportive role in reducing the risk of smoking and other substances in adolescents. People with higher emotional intelligence may have greater mental abilities to better understand situations and respond to different pressures (Ghadiri et al., 2017).

Another personality trait associated with addiction is self-concept; That is, it is a person's perception of himself. Self-esteem is related to self-esteem or self-evaluation. Obviously, people with high self-esteem have a good and positive image of themselves and experience less anxiety and stress. Low self-esteem negative self-esteem and lack of self-confidence can be effective factors in the tendency to addiction. In fact, due to low self-esteem and poor self-esteem, the person's tolerance threshold is reduced and the ability to say no to demand and irrational and irrational behaviors is reduced and vulnerability to addiction is increased. Frequent exposure to negative evaluations and criticism from others also lowers self-esteem and feelings of inadequacy. Most personality problems, such as isolation, can lead to substance abuse (Bhargava & Singh, 2022).

Eysenck's personality theory (1985) are covered by many researches on personality. He suggests three personality traits. These are extroversions/introversion, neuroticism / emotional stability and psychoticism/ impulse control (Eysenck, 2019).

1) Extraversion / Introversion

Eysenck theory holds that the main reason for the differences between extroverts and introverts is their level of brain arousal. Extroversion brain levels are low and require arousal and stimulation. They are actively seeking stimulation. Introverts, on the other hand, avoid arousal because the level of arousal in their brain is high. They are more responsive to sensory stimulation. The extraversion of the neo-test is also close to this dimension.

The findings of a number of studies confirm the relationship between introversion and depression. The research shows that introversion may be effective in causing depression (Sadeghzadeh & Sedaghat, 2021).

A study (Allahmoradi, 2022) looked at how anxiety and depression can change a person's personality over time. The researchers looked at participants' characteristics two years later, and found that severe depression or dysthymia (mild depression) caused lower extroversion.

Another study (Ritschel et al., 2022) found that people with major depression and lower levels of extroversion were more likely to have social anxiety or Cluster C personality disorders, such as: dependent personality disorder, avoidant personality disorder, obsessive-compulsive disorder. Research has shown that low extraversion seems to be more strongly associated with depression than anxiety.

Research shows that there is no direct relationship between introversion and drug addiction, but depression in drug users is a major predisposing factor for suicide (Amini et al., 2018).

2) Neuroticism / Emotional Stability

People who score high on neuroticism usually show an over-emotional response and can hardly return to normal after emotional arousal. They often complain of physical symptoms such as headaches and back pain, and mental health problems such as worry and anxiety (Brock et al., 2022).

People with a wide range of neuroticism are at greater risk for mental disorders such as depression, anxiety and substance abuse. The 2018 meta-analysis showed that a wide range of clinical psychiatric disorders is related to higher levels of neuroticism. In general, people on a high neuroticism scale react quickly and strongly in some situations. In addition, it takes a long time for these people to return to their original level. In other words, these people live with emotional instability and difficulty regulating their behaviors (Hughes et al., 2020).

Neuroticism can play a role in people's tendency to use drugs. Neuroticism in drug users is a major predisposing factor for suicide (Silverman et al., 2019).

3) Psychoticism / Impulse Control

Psychoticism in Eysenck's theory is contained with disregarding the thoughts and views of others, restlessly observing custom and social rules, politeness for others, taking seriousness and failure to take seriously the commitments to others.

According to Eysenck (1985) those who are high on psychoticism are aggressive, antisocial, determined, cold, and self-centered. They have also been shown to be cruel, hostile, and disregarding of the needs and feelings of others. Those who score low in this dimension are usually altruistic, very sociable, empathetic, compassionate, helpful, and likeminded.

6.1.2. Maladaptive Schemas and Its Influences on Addiction

Schemas or core beliefs are the identity of an individual and determine the emotional dimension of life and how he/she feels about himself/herself. Schemas affect everything. Schemas are organized and used to perceive and evaluate new information (Albal & Buzlu, 2021).

These schemas work on the basis of habit and when faced with a challenge. One distorts information to prove and maintain them. The person automatically does things to keep the schemas healthy. People see schemas as the absolute truth, and so these schemas influence the process of subsequent experiences. Schemas play an essential role in the way people think, feel and act. They strangely help unwanted people in their adult lives to revitalize the conditions of a child who has been traumatized by them (Ghabadizade et al., 2019).

People sometimes adopt maladaptive coping styles (e.g. surrender, avoidance, and overcompensation) that may be helpful in reducing suffering and severe emotional problems, yet come at the cost of perpetuating the schema and blocking treatment (Mairet et al., 2014).

Schemas are constantly repeated among family members, and each person grows up with them from childhood to adulthood. As a result, each family member gradually begins to organize and interfere with their family schema in their other relationships with other people, which in turn is the cause of many problems in interpersonal relationships (Lewis, 2005).

Schemas can be maladaptive and often central to distorting thinking and behavior. Schemas are valid examples of traumatic childhood experiences that are gradually established as patterns of distorted thinking and maladaptive behavior. They grow up at the beginning of life to become a habit and continue. Young (2003) argues that maladaptive schemas lead to the development and growth of personality disorders. These schemas are created through negative experiences with important people in life.

Unpleasant and chronic events create a set of central beliefs about oneself and others that are inflexible. This system of beliefs guides the processing of information and behavior in

childhood and gradually expands and becomes established and inefficient (Young et al., 2003). Young describes the characteristics of early maladaptive schemas as infinitely strong and enduring beliefs developed in childhood that flow throughout a person's life and are largely dysfunctional.

Early maladaptive schemas as cognitive infrastructures that lead to the formation of irrational beliefs. Schemas have cognitive, emotional, and behavioral components. Activation of maladaptive schemas create levels of emotion that directly or indirectly lead to various forms of psychological disorders such as depression, anxiety, inability to work, substance abuse, interpersonal conflicts, etc. Maladaptive schemas do not directly lead to any specific disorder but increase vulnerability to such disorders (Maher, 2022).

The content of early maladaptive schemas has a wide emotional component, and young places great emphasis on the emotional aspect of schemas, while the cognitive component covers a small part of it. It is likely that Young's early maladaptive schemas are more associated with anxiety disorders, fear, or any other emotional state (Janovsky, 2020).

Schemas are among the factors that are of particular importance in the matter of substance dependence. In a study by Tatari & Younesi (2014), they investigated the relationship between early maladaptive schemas and addiction susceptibility among addicts referred to addiction treatment camps in Zahedan. The results showed that there is a significant positive relationship between early maladaptive schemas and addiction susceptibility and also regression results showed that early maladaptive schemas are the most predictive of addiction susceptibility.

Young has identified fifteen early maladaptive schemas. Each of the schemas have some developmental roots, and depending on the needs they relate to, each schema is associated with one of the five schema domains (Young, 2018). Based on the five basic needs, Young and colleagues have identified five different schema domains. An individual may have problems in any of these domains.

1 .Disconnection / Rejection

Schemas in this domain include: 1) abandonment/instability, 2) mistrust/abuse, 3) emotional deprivation, 4) defectiveness/shame and 5) Social Isolation/Alienation. People in this domain cannot form secure and satisfying attachments to others. Such people believe that their needs for stability, security, love, affection, and belonging will not be met (Bayrami, 2012).

1) Abandonment / Instability

In this schema it is assumed that if we create an emotional connection with a person, his or her close relationship with one or more people will end soon. Such clients may have experienced death or divorce of their parents as children. These schemas can also occur

when parents are coordinated regarding the child's needs, thus leaving the child alone or withdrawing their attention from him or her for a long time. A person with such schemas believes that he/she will soon lose relationships with others (Bérest et al., 2003) and cannot have long-term relationships.

2) Mistrust / Abuse

This schema refers to an expectation that “people abuse others intentionally”. People with this schema are afraid that they will be harmed by others, their assets will be stolen, or that their social status will be diminished. They often think about preemptively attacking others or taking revenge if they are attacked. These clients have often been abused as children by their parents, siblings, and peers (Young et al., 2013).

3) Emotional Deprivation

This schema refers to the belief that one's basic emotional needs will not be met by others. These needs include love, empathy, kindness, protection, guidance, and care from others. People with this schema may have had parents who deprived their children emotionally. In this schema there is an expectation that normal levels of personal desires and needs will not be sufficiently satisfied by emotional support from others.

This schema refers to the belief that "an individual is isolated from the world", he/she is different from others, or is not a member of any community. This belief usually arises from a child's early experiences in which he/she sees that he/she or his/her family is very different from others (Ahmadvand, 2017).

4) Defectiveness / Shame

This schema indicates that "an individual has internal flaws" that are recognized by others if they want to approach him/her and therefore withdraw from him/her. This feeling of inadequacy and weakness often leads to a feeling of shame. In general, parents who are too critical of their children create the feeling in their children that they are not worth being loved (Young et al., 2018).

5) Social Isolation / Alienation

This schema refers to the belief that "an individual is isolated from the world", he/she is different from others, or is not a member of any community. This belief usually arises from a child's early experiences in which he/she sees that he/she or his/her family is very different from others (Al-Kandari et al., 2021).

2. Impaired Autonomy and Performance

The schema in this domain include 6) dependence/incompetence, 7) vulnerability to harm or illness, 8) enmeshment, and 9) failure. It refers to the feeling that one can act independently in the world without the constant support of others. Autonomous people

build a sense of self-identity and learn to live apart from their parents. They feel mentally, physically, and psychologically autonomous and in control. Ultimately, autonomous people believe that their environment is relatively safe, so they are not too alert to threats. People with such schemas have expectations about themselves and the environment that interfere with their perceived ability to live, survive, and function independently and perform tasks successfully. These expectations often arise in families that undermine the child's trust, are distrustful of the child, overprotect the child, or fail to encourage the child to complete tasks outdoors (Young et al., 2013).

6) Dependence / Incompetence

This schema refers to an inability to take on day-to-day responsibilities independently and completely. People with this schema often ask other people for help in order to make decisions or do new tasks. In general, the parents of such children have not encouraged them to act independently, and as a result, they do not trust themselves to take care of themselves.

7) Vulnerability to Harm or Illness

People with this schema always perceive themselves as exposed to a major catastrophe (financial adverse events, natural and external adverse events such as getting stuck in an elevator, emotional adverse events such as insanity, medical adverse events such as seizure or cancer). This belief may lead to taking many precautions. The parents of such children have been too frightened and instill the belief in their children that the world is a dangerous place (Lowen & Alexander, 2017).

8) Enmeshment / Undeveloped Self

Extreme emotional intimacy with one of the significant people in life (often parents) at the cost of losing individuality or desirable social development often involves the belief that the enmeshed individual could not survive or be happy without the support of others. People with this schema may feel that their existence is entangled with others and that they do not have an independent individual identity, which often lead to feeling futile, confused, and aimless. In severe cases they may doubt their existence and being (Hamidpour & Anduz, 2018).

9) Failure

It refers to the belief that a person cannot perform on par with peers in areas such as work, school, and sports. These clients may feel insane, unprofessional, untalented, and ignorant. People with such schemas do not strive for success because they believe that they will fail. If the child fails to reach the desired level in one area, he/she is treated as if he/she has failed in other areas as well. Such treatments may create a schema of failure. Usually the parents of such people do not provide enough support and discipline for the

children; for instance they do not encourage participation at school or sports (Young et al., 2013).

3. Impaired Limits

The schemas in this domain include 10) entitlement/grandiosity and 11) insufficient self-control/self-discipline. People with "realistic limits" have the discipline to control their impulses and to meet the needs of others in measured and appropriate ways. It is important that children understand the limitations, and this cannot be achieved when parents are too nonchalant. Children benefit from realistic limits because they can learn self-control and attention to others and their needs. Such schemas typically arise in families characterized by extreme nonchalance, confusion, or a sense of superiority rather than discipline, proper handling, rational limits, responsibility, mutual cooperation, and goal setting. In some cases, the child may not be able to cope with normal discomfort or may not have received adequate guidance and direction.

10) Entitlement / Grandiosity

A person with such a schema believes that he/she is above and beyond others and assumes special privileges for himself/herself while feeling no obligation to abide by the principles of reciprocity that guide normal social interactions. Such people always seek superiority through power and control over others while their primary goal is not to gain the attention or acceptance of others.

11) Insufficient Self-Control and Self-Discipline

This schema is characterized by persistent issues with self-control, intolerance of failures, or inability to withhold the expression of emotions and impulses. In its milder forms, the patient strongly avoids discomfort. A person with such a schema does not tolerate pain and avoids responsibilities, conflicts, and hardships, which undermine his/her satisfaction, commitment and personality cohesion (Young et al., 2013).

4. Other-Directedness

The schemas in this domain include 11) Subjugation, 13) Self-Sacrifice and 14) Approval/Recognition-Seeking. Excessive focus on the desires, feelings, and responses of others in a way that ignores one's own needs, in order to receive love and acceptance or to avoid retaliation. In these schemas, one usually ignores one's natural emotions and desires and is unaware of them (Rains, 2016). Schemas in this domain typically arise in families that accept their child conditionally: In order to gain the attention, love, and acceptance of others, the child has to ignore important aspects of his/her personality. In many of these families, the emotional needs and desires of the parents and their social status are considered to be more valuable than the needs and feelings of the child.

12) Subjugation

Feeling compelled to give up one's control over to others that is usually intended to avoid anger, deprivation, or retaliation. The two most important types of subjugation are

Subjugation of needs (personal desire, decisions & preferences) and Subjugation of emotions (rejecting personal emotions, especially anger).

It is typically assumed that one's desires, beliefs, and feelings are worthless or unimportant to others. This schema often manifests itself in the form of extreme subjugation with hypersensitivity to the feelings of others. This schema could manifest itself with uncontrolled emotional outbursts, psychosomatic symptoms, withdrawal from emotions, acting out, and substance abuse (Young et al., 2013).

13) Self-Sacrifice

Overemphasizing the satisfaction of other people's needs in daily life at the cost of not satisfying one's own needs. The most common reasons include avoiding hurting others, avoiding guilt due to selfishness, or the desire to continue communicating with people in need. This is often due to hypersensitivity to the suffering of others. Such a schema leads to the feeling that the needs of the self-sacrificing person are not sufficiently met and also causes resentment to the people whom he/she cares for (similar to the concept of codependency) (Halverson, 2019).

14) Emotional Inhibition

Extreme emphasis on gaining approval, attention, and acceptance from others, which undermines the development of a confident and real sense of self. Here, a person's sense of self-worth depends more on the reactions of others than on his/her own natural inclinations. Sometimes this schema manifests itself as obsession with appearance, social acceptance, money, or progress, as a means to gain approval, admiration, and attention of others (Anderson, 2017).

5. over Vigilance / Inhibition

The schemas in this domain include 15) negativity/pessimism. Excessive emphasis on repressing one's emotions, impulses, and spontaneous choices, or adopting inflexible and internalized rules and expectations about moral performance and behavior that often lead to a loss of happiness, self-expression, peace of mind, close relationships, and health. Schemas in this domain typically occur in families where anger, high expectations, and sometimes punishment are observed. In these families, excellent performance, perfectionism, conscientiousness, law abidance, concealing emotions, and avoiding mistakes are emphasized, while pleasure, happiness, and peace are neglected. Such people

usually have a latent tendency toward pessimism and worry, as if people should always be vigilant otherwise everything will fall apart (Young et al., 2013).

15) Unrelenting Standards / Hyper Criticalness

Constant focus on negative aspects of life (pain, death, resentment, loss, disagreement, conflict, guilt, unresolved problems, potential mistakes, betrayal, wrongdoing, etc.) while downplaying positive aspects of life or neglecting them. This schema can lead to serious issues and the person could eventually feel that his/her personal life is shattered. It often causes them to have an unusual fear of making serious mistakes that could lead to financial bankruptcy, loss, humiliation, embarrassment, etc. because the negative and potential consequences of such situations are often exaggerated. These patients are characterized by chronic anxiety, vigilance, fretting, or uncertainty (Delattre, 2014).

6.2. Purpose of This Study

The purpose of this study is to examine the influences of personality traits and maladaptive schemas by compare the difference of their scores between addicts and non-addicts.

At first, we examine on three personality traits, these are 1) Extraversion/ Introversion, 2) Neuroticism, 3) Psychoticism, and next on 15 maladaptive schemas, these are 1)Abandonment/ Instability, 2)Mistrust/Abuse, 3)Emotional Deprivation, 4)Defectiveness/ Shame, 5)Social Isolation/Alienation, 6)Dependence / Incompetence, 7)Vulnerability to Harm or Illness, 8)Enmeshment/ Undeveloped Self, 9)Failure, 10)Entitlement/grandiosity, 11)Insufficient Self-Control and Self-Discipline, 12)Subjugation, 13)Self-Sacrifice, 14)Emotional inhibition, 15)Unrelenting Standards / Hyper criticalness.

In order to confirm the pathology of the addiction group, extraversion/introversion was changed reversal score, so the higher extent of extraversion (introversion) means higher tendency in introversion in this study.

The hypothesis of this study are as follows:

Hypothesis1: Addicted individuals have higher tendency of extraversion (introversion), neurosis and psychoticism than non-addicted individuals.

Hypothesis 2: Addicted individuals have higher tendency of 15 maladaptive schemas than non-addicted individuals.

6.3. Method

6.3.1. Participants

This research received an ethic check and approval from the committee of the Roozbeh Addictions Rehabilitation Center in Tehran a total of 100 men were recruited through the Roozbeh Addictions Rehabilitation Center in Tehran. 50 of them were addicted to drugs and screened through a call to counseling and addiction treatment center to serve as an addiction group. The other 50 were in the control group, selected from relatives and family members of the addicted group with no history of addiction. To high the validity of the results, characteristics such as age, level of education and marital status were matched between the two groups. The age of participants ranged from 30 and 50 years.

6.3.2. Measures

1) Eysenck Personality Questionnaire (EPQ-R):

The EPQ-R is a 100-item self-report inventory that contains assessing the personality dimensions in 1. Extraversion (extraversion/introversion), 2. Neuroticism (emotional stability / emotional instability), and 3. Psychoticism for people aged 16 to 70 years (Eysenck & Barrett, 1985). In addition to the mentioned components, this questionnaire also has a scale to measure lying. This questionnaire requires yes/no answers. In this study, extraversion was scored as a reversal item. In other words, the higher the extroversion score, the higher the introversion.

The Iranian version of EPQ-R was translated by Kaviani et al., (2005). They obtained retest reliability coefficients of this questionnaire as follows: extraversion 0.92, neuroticism 0.89, psychoticism 0.72, lie detection 0.88, and the retest reliability coefficients were between a minimum of 0.76 for psychoticism and a maximum of 0.90 for extraversion. Also, the reliability and validity of this test were investigated by Bakhshipour and Bagherian (2018).

On the Iranian population. Regarding the internal consistency (Cronbach's alpha), they obtained 0.77 for the extraversion scale, 0.74 for neuroticism, 0.52 for psychoticism, and 0.61 for the L scale. The concurrent validity was confirmed using NEO-FFI-R, the correlation coefficients were obtained as 0.70 for EPQ-R and NEO-FFI-R extraversion scales, and 0.72 for EPQ-R and NEO-FFI-R neuroticism scales (Bakhshipour & Bagherian, 2018). It showed good concurrent validity.

2) Young Schema Questionnaire (Short Form):

This questionnaire was developed to measure early maladaptive schemas (Young and Brown, 2003). The original form of the questionnaire had 205 items. The short form of this questionnaire was developed in 1998 (Welburn et al., 2002) and had 75 items. The short form of the questionnaire is also provided for measuring 15 maladaptive schemas based on the original form. The 15 maladaptive schemas are as follows; 1. Emotional deprivation, 2. Abandonment, 3. Distrust/abuse, 4. Social isolation, 5. Defectiveness/shame, 6. Dependence/incompetence, 7. Vulnerability to harm, 8. Enmeshment/undeveloped self, 9. Subjugation, 10. Self-sacrifice, 11. Emotional inhibition, 12. Unrelenting standards, 13. Entitlement/grandiosity, 14. Insufficient self-control, and 15. Failure (Welburn et al., 2002). Each score is graded on a 6-point Likert scale. In this questionnaire, high scores represent early maladaptive schemas. The scores can be compared both at the schema level and at the entire questionnaire level.

The Iranian version of YFQ-SF was translated by Abbasian and Fatehizadeh (2003) and they examined the concurrent validity of the total score of the schema questionnaire by examining its relationship with the Irrational Beliefs Test (IBT). The results showed a significant correlation ($r=0.36$). Moreover, the face validity of the questionnaire has been confirmed by 12 professors of the University of Isfahan (Abbasian & Fatehizadeh, 2003). Sadoughi et al., (2008) examined the psychometric properties of the Young Schema Questionnaire on a sample of 370 people. Cronbach's alpha coefficient reported the internal consistency for the fifteen factors in the range of 0.62 to 0.90, while the coefficient for the whole scale was reported as 0.84. They concluded that all 15 schemas have good internal consistency in Iran.

6.3.3. Investigation Procedure

The subjects in both the addiction and control groups were given the questionnaire by the attending physicians of the patients in the addiction group, took it home, answered the questions, and submitted it to the physician at the next visit.

6.4. Results

The total score for each sub factor of each scale was calculated, and the mean and standard deviation were determined. To confirm the pathology of the addiction group, the extraversion was calculated and analyzed in such a way that the extraversion was reversed and higher scores indicated introversion. For examining the research hypotheses, inferential statistical methods (multivariate analysis of variance, MANOVA) was conducted.

We conducted MANOVA to examine the differences in the means of 3 traits of personality (i.e. :1) extraversion (introversion), 2) neuroticism, 3) psychosis) and 15 traits of maladaptive schemas (i.e. : 1. Abandonment/ Instability, 2. Mistrust/Abuse, 3. Emotional

Deprivation, 4.Defectiveness/ Shame, 5. Social Isolation/Alienation, 6.Dependence / Incompetence, 7.Vulnerability to Harm or Illness, 8.Enmeshment / Undeveloped Self, 9. Failure, 10.Entitlement/grandiosity, 11.Insufficient Self-Control and Self-Discipline, 12.Subjugation, 13.Self-Sacrifice, 14. Emotional inhibition, 15. Unrelenting Standards / Hyper criticalness) between addicted individuals and non-addicted individuals. There was a significant difference between addictions and non-addictions (Wilks' $\lambda=0.361$, $F=15.661$), $p<.01$).

Table 6-1: Comparison of 3 personality traits in addictions and non-addictions

	Addictions (N=50)		Non-addictions (N=50)		F	Sig
	Means	SD	Means	SD		
Extraversion (introversion)	23.13	2.83	11.90	2.98	35.89	**
Neuroticism	19.47	4.11	13.53	3.16	34.90	**
Psychoticism	21.30	3.68	11.20	3.19	48.74	**

$p < .01$ **

Table (6-1) showed the mean scores of 3 traits of personality and results by dependent variables. They indicated that addicted individuals and non-addicted individuals have different tendencies on 3 traits of personality. And the addicted individuals were found to have significantly higher means of 1) extraversion (introversion), 2) neuroticism, 3) psychosis than the non-addicted individuals ($p <.01$).

Table (6-2) showed the item mean scores of 15 maladaptive schema and results by dependent variables. This indicated that addicted individuals and non-addicted individuals have different tendencies on (1, 2, 3, 6, 7, 8, 9, 10, 11, 12, 13, 14) traits of maladaptive schema. And addicted individuals were found to have significantly higher means on these 12 maladaptive schemas (i.e., 1. Abandonment/ Instability, 2. Mistrust/Abuse, 3. Emotional Deprivation, 6. Dependence / Incompetence, 7. Vulnerability to Harm or Illness, 8. Enmeshment / Undeveloped Self, 9. Failure, 10. Entitlement/grandiosity, 11. Sufficient Self-Control and Self-Discipline, 12. Subjugation, 13. Self-Sacrifice, 14. Emotional inhibition) than non-addicted individuals ($p <.01$).

Table 6-2: Comparison of 15 maladaptive schemas in addictions and non-addictions

	Addictions (N=50)		Non-addictions (N=50)		F-value -Sig
	Means	SD	Means	SD	
1. abandonment/Instability	4.02	0.94	3.2	0.86	17.507 **
2. mistrust/ abuse	4.12	0.87	3.49	0.75	21.326**
3. emotional deprivation	3.76	1.67	3.14	1.60	18.535**
4. defectiveness/shame	3.36	0.87	3.49	0.83	2.656
5. social Isolation/ alienation	3.16	1.24	3.40	0.97	3.049
6. dependence/ incompetence	3.61	1.54	3.13	0.69	18.860**
7. vulnerability to harm or illness	3.64	1.53	3.17	0.87	41.947**
8. enmeshment/undeveloped self	2.85	0.93	2.43	1.15	27.384**
9. Failure	3.34	1.54	2.74	0.78	21.842**
10. entitlement/ grandiosity	4.11	0.21	3.17	0.98	20.752**
11. sufficient self-control and self-discipline	3.76	0.92	3.12	0.98	19.326**
12. subjugation	3.54	1.14	3.01	0.84	22.383**
13. Self-sacrifice	4.86	1.25	4.10	1.13	20.842**
14. emotional inhibition	4.09	1.45	3.35	1.74	19.535**
15. unrelenting standards / hyper criticalness	4.35	1.36	4.02	1.10	2.568

$P < .01$ *

6.5. Discussion

6.5.1. Personality Traits and Addiction

The present study conducted to compare 3 personality traits and 15 early maladaptive schemas between addicts and non-addicts.

At first, the results on personality traits indicated that the addicts have significantly lower tendency of extraversion, higher neuroticism, and higher psychoticism than non-addicts. So the hypothesis 1 was supported.

The first finding of the research is the concordant with the findings of Oladi et al (2013), Dalvi-Esfahani (2021), Arpaci (2020), Jauk and Dieterich et al, (2019),

Lower tendency of Extraversion was related to pessimism, shyness and cautiousness. Neuroticism is related to instability on emotions such as fear, sadness, anger and guilty feelings. Psychoticism is related to hostility, a sense of victim and impulsive.

Eysenck (1985) described extroverts with other characteristics such as being social, interested in attending parties, having many friends, needing other people to talk to them and not being interested in reading, and introverts with characteristics such as being calm, withdrawing from others. Lack of sociability, introspection, interest in books and reading and preferring it to individuals. Eysenck believed that not all people have one of these two characteristics, but believed that most people are between these two continuities, but each person is more inclined to one of these two traits.

According to Eysenck (1985), introverts and extroverts are not only different in their treatment of each other, but also physiologically distinct. He attributes this difference to the structure of the nervous system. He believes that cortex arousal is lower in extroverts than in introverts, and this readiness affects their social behaviors. Introverts have an optimal level of arousal. That is, their nervous system is stimulated sooner than introverts. For this reason, they are more irritable and choose a secluded environment and avoid crowded environments. On the contrary, extroverts welcome more noisy and crowded environments and enjoy noisy parties.

Another of Eysenck's categories of personality has been the division of individuals into neurotic and non-neurotic. Neurotic people are overly emotionally responsive. They show a lot of emotional reaction to minor failures. They get excited easily, get angry and are more depressed than many people. Eysenck's studies led him to another major trait called psychoticism. Guided psychoticism. People who are high in this area are self-centered, aggressive, cold, lack empathy and impulsive and do not pay attention to the wishes of others. These people are in dire need of treatment. According to Eysenck, personality changes are caused by biological factors. He does not ignore the role of environmental factors, but pays

more attention to biological factors. He writes that it is a fact that we cannot socialize an introvert because the environment plays a small role in this trait.

It can be argued that individuals who exhibit introversion, neuroticism, psychoticism react to environmental stress with more severe emotional reaction such as anger, anxiety and sadness. It seems that they are less able to control their impulses or negative emotion than others, and they are less able to deal with stress than others.

As a result, at the time of facing problems rather than finding a solution, they might be provoked to become addicted in stressful situations to reduce their tension or emotion. And in order to adjust their emotional state and reduce tension, they may turn into drug addiction (Olaadi et al., 2013).

6.5.2. Early Maladaptive Schemas and Addiction

Secondly, the results on early maladaptive schemas indicated that the tendency of 1. Abandonment/ Instability, 2. Mistrust/Abuse, 3. Emotional Deprivation, 6. Dependence / Incompetence, 7. Vulnerability to Harm or Illness, 8. Enmeshment/ Undeveloped Self, 9. Failure, 10. Entitlement / Grandiosity, 11. Insufficient Self-Control and Self-Discipline, 12. Subjugation, 13. Self-Sacrifice, 14. Emotional inhibition of addicts were significantly higher than them of non-addicts.

But 4. Defectiveness / Shame, 5. Social Isolation/Alienation, and 15. Unrelenting Standards / Hyper criticalness of addicts were not significantly higher than them of non-addicts.

So, the hypothesis 2 was considered to be supported in general.

This result indicates that addicts have stronger maladaptive schemas than non-addiction. These are in concordance with the findings of Shorey (2013), Amini et al., (2018), Sadeghzadeh and Sedaghat M (2020) and Rizzo (2007).

Early maladaptive schemas are not directly responsible for the development of personality disorders, but they can be closely related to it and increase a person's vulnerability to these disorders.

In general, people with behavioral or psychological problems tend to experience negative experiences instead of healthy functioning in their lives, which can lead to beliefs such as "I am not lovable" and "I am unworthy." These experiences are associated with activating events or traumatic experiences during development and affect a person's belief system. Negative experiences such as parental ridicule may lead to conditional beliefs such as "If we do what others do not like, we will be worthless." These beliefs lead to the formation of negative cognitive schemas in the individual. Basically, early maladaptive schemas as

dysfunctional cognitive foundations could affect the perception of phenomena and the formation of the individual's mind.

These schemas occur in cold and unfeeling family who do not support their children and do not have a good emotional relationship, learn to ignore relationships with others and social norms.

Early maladaptive schemas do not directly lead to drug abuse, but high individual vulnerability to disturbances could urge drugs abuse (Shorey, et al., 2013). Magnifying negative events, looking negatively at the world and the future, avoiding problems and rejecting responsibility can cause a lot of psychological and social damage to individuals.

It is probably these schemas that make people prone to substance abuse. In addition, negative emotional states that are rooted in early maladaptive schemas play an important role in the occurrence or recurrence of substance use. Psychological theories have shown that addiction can temporarily reduce the negative emotions caused by the activity of maladaptive schemas. So, these schemas are associated with addiction.

Therapists and clients try to understand how maladaptive styles are formed in their childhood. In fact, a general understanding of these roots in childhood helps clients to see their problems perceptually and prepare the ground for treatment. Therefore, Hemmat Followers Center, with the help of its skilled therapists, can help clients in this regard to modify their schemas, which also helps to improve their drug use.

6.6. Conclusion

In general, according to the results of this research, the addicts have a negative personality traits and early maladaptive schemas.

One of the limitations of this research is to select a sample merely from the men's community and the city of Tehran, which limits the generalization of the results. Therefore, it is suggested that the similar research should be carried out for women and the group of other cities. In addition, other research using instruments such as interviewing and observation for the addicts and investing the role of mediating variables such as personality type, emotional disorder, and emotion regulation strategies, which can affect intolerance of uncertainty and thought-action fusion should be done.

6.7. Limitations

Participants in this program were male. In the future, it would be advisable to consider conducting studies with female participants. This study has several limitations. A limitation of this study is that the study sample is specific to Tehran, the capital of Iran.

In this program, questionnaires were administered to people with drug addiction. However, drug addicts have ups and downs in motivation. Therefore, in future studies, it is desirable to conduct interviews with the subjects as well as administering the questionnaire to keep their motivation high.

6.8. Practical suggestions

Considering the findings of the present study, it is beneficial for promotion of the public's psychological health to screen and identify individuals with negative personality traits and maladaptive schemas by early diagnosis of their tendency toward substance abuse of addiction. And it can be effective in preventing and reducing future problems to perform the necessary interventions in the early stages.

In order to make public about the importance role of factors such as negative personality traits and maladaptive schemas on the tendency toward substance abuse, it is necessary to hold training workshops for adolescents and people at risk.

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Chapter 7: Comparison of Attachment Styles, Resilience and Mindfulness between Students with High and Low Tendency to Addiction

7.1. Introduction

7.1.1. Attachment Styles and its Influences on Addiction

Attachment is a relatively stable emotional bond that develops between a child and one or more people with whom the baby interacts regularly. In creating and determining the quality of this emotional bond, the two concepts of "accessibility" and "responsiveness" play a unique role (D'Arienzo, 2019). Attachment is an emotional bond, not a behavior, because most behaviors of this type can also serve other behavioral systems, such as exploratory and bond-seeking. Attachment bonding is a special type of multiple bond that Bowlby refers to as emotional bonds. Throughout a person's life, a set of important emotional bonds are formed that are not considered attachments. Attachment is a type of emotional bond that, despite having features in common with other emotional bonds, has characteristics that distinguish it from other emotional bonds. West (1981) and Weiss (1991) have introduced characteristics for distinguishing attachment and distinguishing it from other emotional bonds, which are: 1- Search for proximity 2- The effect of a secure base 3- Protest against separation 4- Reaction to the threat 5- Specific response to the person being attached 6- Stability 7- Lack of sensitivity to shared experiences with the person of interest (Shabani, 2017). If an attachment image is available, an attachment view will be prioritized if you need security and comfort (Cassidy, 1999). The word dependence refers to the extent to which one relies on others for one's life and therefore has a source of action, while attachment refers to a form of behavior that is purely descriptive (Bowlby, 1969). Attachment is a relationship that lasts from birth to death. Dimensions such as self-esteem, extraversion, trust in others, belief in human nature, and lifestyles are explained by attachment (Collins and Reid, 1990; Brewer, 2001). Traditional psychoanalytic theories use the term thematic relations instead of an attachment, while newer theories such as Bowlby's theory and the like use terms such as attachment and attachment imagery in their theoretical discussions (Bowlby, 1973).

Secure attachment style is associated with characteristics such as intimacy, trust, love, affection and friendly and intimate relationships, while insecure attachment style is associated with characteristics of lack of self-confidence, fear of intimacy, distrust of others and inability to establish friendly and intimate relationships. Is correlated (Burgkart, 2022; Feizi, 2019; D'Arienzo, 2019). In the shadow of a secure attachment style, self-confidence and others are the two main characteristics of safe people. Exploratory and link-seeking behaviors are also components of attachment (Cassidy, 1988; Mikulicer, 2019).

Normal exploratory practice in people with secure attachments increases their courage and flexibility in testing and dissection and problem-solving skills. And establishes at relatively desirable levels (Besharat, 2006). People with insecure attachment styles (avoidant and ambivalent) have less exploratory and bonding power than safe people (Sadri Damirchi, 2018).

Security can be described as the core of the attachment system in adult attachment relationships (Bowlby, 1969). Secure relationship with the person to whom we feel attachment builds self-confidence (Invert, 1991). Hazan and Shaver (1998) established adult attachment based on Bowlby's theories of attachment. The researcher's defined adult attachment in two ways: first, the internal representations or patterns that guide interpersonal behavior and information processing, and second, the specific strategies and practices that individuals use to maintain their security.

For an adult, secure attachment to a spouse, friend, or parent is not a sign of immaturity and abnormality, but is normal, and attachment behavior can occur between one adult and another adult. Some studies show that there are reactions in adults to the loss of attachment images during death or divorce, the responses of which are similar to children's reactions to prolonged separations from attachment images: a phase of anesthesia, a period of protest, anger, and irrational search for Access to the missing image is seen (Collin, 1996; and Maris, 1996).

Based on the findings of attachment theory, individual differences in activity patterns and consequently adult attachment orientation are related to distinct patterns of coping styles and emotional and cognitive regulatory strategies (Kaftesius, 2004; Mikulicer, Linser, et al., Shaver 2003, Perg and Mikulicer Linser, 2004; Shaver and Mikulicer Linser, 2002; McCarthy et al., 2001; Greenberger and McLaughlin, 1998; Kobak et al., 1993; Kubak & Siri, 1998).

Early attachment experiences with caregiver's guide feelings, thoughts, and behavior in subsequent relationships. According to attachment theory, early experiences with parents and secure or insecure attachment styles affect subsequent close relationships, and children who are not emotionally attached to one parent have more delinquent tendencies (Baldwin, Baldwin & Collett, 1990). Attachment styles affect how a person faces stressful situations, and separation from a source of safety can lead to a disconnection of a person's relationship with surrounding human resources and his tendency to use drugs to escape from fears and anxieties and seek refuge (Bahadri Khosrowshahi, et al., 2009).

Initial studies of attachment styles were conducted by Invert et al., (1978) by designing an objective experimental situation called the unfamiliar situation, which identified three distinct attachment patterns: Secure attachment, Avoidant (insecure) attachment and ambivalent (insecure) attachment (Kronenberg et al., 1997).

1) Secure Attachment

Secure attachment means having a close relationship and emotional connection with a particular person, and indicates that the child trusts the attachment's availability, responsiveness, and receptivity. Safety comes from familiar people. Secure attachment is formed when the child periodically receives warm and intimate responses from the caregiver. These children find others to be trustworthy and to love themselves (Invert, 1978, Wardin, Peters, Berry, et al., 2008). Entsworth (1978) suggested that secure attachment arises from the mother responding to the needs of the child. Thus, careless behaviors of the caregiver toward the child do not lead to secure attachment, and here the child becomes insecure in attachment to the caregiver (Wallin, 2007). Safe children feel safe in most situations.

Research shows that safe children from 12 to 18 months of age have more positive emotions in the face of stress and problems, are less likely to fail, and are better able to use their caregiver as a supporter. These children are confident in their skills, avoid misbehavior, and are more adaptable and mentally healthy, and they do not like to be stopped when they are obsessed with exploration. They feel satisfied when they master a new issue. These children describe themselves positively. At the same time, they are aware of their weaknesses and accept them. For this reason, they have high self-confidence and are self-reliant. This flexibility seems to have come from a flexible mother. A mother who has been in a relationship with a child with minimal symptoms. In general, mothers have children with a secure attachment style, lifting them very quickly when the baby cries and holding them kindly. Research shows that safe children can moderate their emotions and regulate them in social relationships.

Thus, they are more socially competent, have more friends, and are favoured by their teachers and peers. Adults who described their attachment history as safe (intimate, loving, and supportive) had real inner patterns that reflected this security. They see themselves as loving people who are easily recognized, who enjoy intimacy, and who rarely worry about leaving or being intimate with them. In line with these attitudes, they described their most important romantic relationship in terms of trust, satisfaction and friendship (Wallin, 2007).

2) Avoidant Attachment

Avoidant attachment occurs when the caregiver constantly rejects or does not respond to the child. These children are the ones who have experienced this kind of caring behavior. They find it difficult to relate to others, and when others are reluctant to relate to them, they strongly avoid and learn to rely on themselves (Wardin et al., 2008). Children who, in an unfamiliar situation, explore the environment without any discomfort after separating from the mother, continue to play after the mother leaves the room, openly avoiding the mother during the resuscitation session. These children are emotionally indifferent to the mother. They do not look for the mother in times of separation and danger and avoid the mother when

confronted. When they are in their mother's arms, they hold themselves tight and do not turn upside down in front of strangers. They are not cautious or show little caution, these children are defined as a style of avoidant attachment.

People with avoidant attachment have a weak pattern of relationships with others. These people claim that they do not need the relationship of others and avoid intimate relationships. Studies show that children with avoidant attachment styles are more likely to have heart rates and increased cortisol levels during times of stress and separation from their mothers than children with secure attachment styles (Springer and Grossman, 1993; Zelenko, 2005; Sadir Land, Kansi, Collins and Reid, Granger, Murray and Grippy, 2008). Adults who said they had a history of avoidant attachment (expectant, careless, and faulty parents) exhibited true inner patterns that emphasized independence, distrust of the beloved, and fear of intimacy with others (Collins and Reid, 2000).

3) Anxious and Ambivalent Attachment

Ambivalent (anxious-ambivalent) attachment occurs when the caregiver responds inconsistently to the child. These children are people with high ears and are worried about being rejected, or may have behaviors such as clinging to ester. Children who can find peace and comfort in unfamiliar situations are more cautious about strangers. When the mother leaves the room, they become more upset, and in the resuscitation, phase show ambivalent responses to their mother. First, they approach their mother and then they hit her. These children are in the class of anxiety-ambivalent attachment style. Ambivalent attachment styles are mood-sensitively vulnerable to stress and have limited coping skills. Anxious-ambivalent attachments have abnormal perceptions of themselves and others. These children behave contradictorily toward their parents. Sometimes they approach their mother and sometimes they avoid her or cry suddenly after they calm down. They try not to look at their mother, they look worried. In a new situation, these people learn to seek a relationship with the caregiver and openly avoid it when the caregiver approaches them. These children experience high levels of anxiety during development. Because these children had irresponsible and unpredictable caregivers with irregular responses. These children live with a constant fear of loneliness (Shavar, & Crowley, 2006). People with high levels of ambivalent attachment have a weak pattern in their relationship with others, constantly worrying that they will not be loved by others and that others will leave them. These people are also trying to gain the trust of others. Adults who recalled a history of ambivalent attachment (parents who responded unpredictably and unfairly) exhibited true inner patterns by which they sought complete immersion and instantly fell in love (Cassidy, 2001).

Morley and Morgan (2012) argue that ambivalent attachment is related to a passion and concern for relationships, with low satisfaction.

Besharat, Ranjbar Noushri and Rostami (2008) showed that there is a difference between the functioning of the family of people suffering from opioid use disorders and the functioning of the family of normal people, and dysfunctional family characteristics can predict the severity of opioid use disorders in addicts. By studying the relationship between attachment styles and drug use among 13,250 teenagers, Bahr and Maghan, Marcus Valley (1998) found that attachment to parents is related to the risk of drug use among teenagers.

Abdollahi and Ghasemzadeh (2014) showed that there is a significant difference between attachment styles between addicted and ordinary adolescent women. Kheiri, Abdollahi and Shahkgholian (2013) concluded that there is a significant negative correlation between the safe attachment style and addiction, and there is a significant positive correlation between the avoidant unsafe attachment style and the ambivalent anxiety style with addiction.

According to Anderson (2012), unsafe attachment is known as an important vulnerability to addiction, and avoiding attachment among unsafe attachment patterns has the most positive correlation with drug abuse. Mickulincer and Shaver (2007) stated that attachment quality could predict delinquency and drug addiction in adolescents and young people.

7.1.2. Resilience and Its Influences on Addiction

Resilience means elasticity or elastic property, but these words do not have the necessary expressiveness to be conveyed in the field of addiction prevention.

In psychology, resilience is referred to as the positive capacity of individuals to adapt to stress and resources, and this concept is also considered to determine the attribute of tolerance to future risk factors (Hart, Bcainan & De Chenay, 2014).

Resilience has found a special position in the areas of psychology of transformation, family psychology and mental health (Mortazavi & Yarallahi, 2015).

The term resilience can be defined as the ability to get out of difficult situations or to adjust to them. Resilience is the capacity of individuals to stay healthy and to resist and endure difficult and dangerous situations, in which the person not only overcomes those difficult situations but also becomes stronger during them and despite them. Resilience, then, means being able to succeed, live, and grow in difficult situations (despite risk factors). This process does not occur spontaneously unless the person is in a difficult and unpleasant situation to be less vulnerable, to make the maximum effort, and to discover and use protective factors (individual and environmental).

Resilience factors make a person use his / her existing capacities to achieve success and growth in life in difficult situations and spite of risk factors, and use these challenges and tests as an opportunity to empower himself/herself and come out of them proud. Resilience

is considered in the presence of stressful conditions, considering the combined stressful conditions and the innate ability of individuals to respond, survive and grow normally.

There is clear evidence of an association between adverse events and the hardships of childhood life and the development of mental disorders in later life, such as depression, substance abuse, and suicide. Resilience can be useful in research for three reasons: 1) Awareness of resilience clarifies the complexity of mental disorders (including addiction) and their causes and it emphasizes the need to pay attention to the relationship between past events, current life outcomes and the predicted consequences. 2) Resilience urge to understand why some children, despite being in difficult situations, succeed in recognizing previously unknown possibilities for prevention. 3) The idea of resilience gives hope to a person in difficult situation, and the main advantage is that we will know that many children do not give in to their destinies.

Resilience has five important characteristics that are listed below: 1) Resilience is a dynamic process, not a fixed state 2) Resilience is situational, and meaning that one adaptive behavior in one situation may be incompatible in another. 3) Resilience is produced by the interaction of intrinsic personality traits with environmental factors. 4) Resilience is more complex in situations where there are multiple risk factors. 5) Resilience can be learned.

In the new approach to addiction prevention, identifying and promoting protective factors, including resilience and identifying and reducing risk factors, has an important place. Resilience is one of the concepts that has recently been introduced in the field of prevention of addiction and other mental disorders and injuries and can be the key to prevention.

In an extensive study (Hawkins & Lishner, 1986), several potential protective factors were identified that appeared to reduce the likelihood of alcohol and substance abuse. In this study, it was found that sincere relationships with family, the existence of effective and strong role models in life, academic achievement, strong connection with the school and striving to achieve dreams, lead adolescents less to substance. Gentle temperament also seems to enable adolescents to cope with stress and adapt to a positive outlook, both of which reinforce protective factors in the individual.

7.1.3. Mindfulness and its Influences on Addiction

Mindfulness has a long history in Eastern spiritual traditions, especially Buddhism. It increases the capacity for sustained and intelligent attention and awareness (which is beyond thought). Meditation or mindfulness exercises lead to increasing the ability of self-awareness and self-acceptance in patients. Mindfulness is not a mere method or technique, although many different methods and techniques have been used to do it. Mindfulness can be described as a way of "being" or "knowing" that involves understanding one's feelings (Baer, 2018).

Mindfulness is a way of direct attention that originated in the Eastern meditation tradition and is increasingly discussed and practiced in Western culture today. Mindfulness is focusing a person's intentional attention on the experience that is happening now in a non-judgmental and accepting manner (Kabat-Zinn, 2020). Mindfulness contrasts with mental states where attention is directed elsewhere, such as mental preoccupation with memories, fantasies, plans, worries, or automatic behaviors without awareness of actions (Brun & Ryan, 2013). Teachers from different traditions have shown the importance of present moment awareness (Krishnamoorthy, 1969; Mitchell and Lazy, 1988; Ramana & Venkataramiah, 2000; Tully, 2014). For 2500 years, Buddhists systematically developed meditation methods with an emphasis on mindfulness (Brentley, 2018). Buddha taught mindfulness to his followers during his early teachings, he expounded meditation recipes for mindfulness.

These traditions have described mindfulness meditation as an accessible way to reduce suffering and expand the qualities of the register such as awareness, insight, wisdom, and compassion (Baer, 2013). In the Buddhist tradition, mindfulness is an integral part of the path to understanding the origin and end of suffering; and this means letting go of the pattern of suffering more for existing problems and pain. Therefore, mindfulness empowers us to see and work with common challenges and vulnerabilities that are an inherent part of being human. Mindfulness is not related to specific religions and is accessible and applicable to all humans (Grossman et al., 2014; Kabat-Zinn, 2013). It is the awareness that emerges when we pay attention to our experience in a particular way: purposeful (attention that is deliberately given to specific aspects of attention); in the present moment (when the mind slips to the past and future, we bring it to the present); and non-judgmental (a process that induces acceptance of whatever happens) (Crane, 2019). Mindfulness also requires that we are willing to let go of our fantasies and have the experience of being in the moment completely (Hungerford, 2022).

There are several definitions of mindfulness, some of which we will mention below. Mindfulness is considered an awareness that is non-judgmental, and friendly and does not seek to add or subtract anything from experience. Mindfulness is not limited to inflexible or specific meditation methods but is something available to us to experience in each moment and with each breath. Therefore, all human beings can be conscious (Brantley, 2015). Rosenberg (1998) considered mindfulness to be similar to a mirror that reflects exactly in front of it.

Kabat-Zinn (2021) defines mindfulness as moment-to-moment judgmental awareness, and in 2014, paying attention to goals in the present in a specific and non-judgmental way is mindfulness. And he considers mindfulness as a type of awareness that emerges through paying attention to real goals and being in the present, without judging the obvious experiences of the moment.

Based on this definition, researchers emphasize that mindfulness is formed based on several facts, which include non-reactivity, observational awareness, action with awareness and concentration, and non-judgmental attention to experiences (Baer, et al., 2012). Kabat-Zinn (2018) proposed that conscious attention includes the state, interest, and intimacy

with the observed experience at a particular moment, regardless of whether it is pleasant or unpleasant.

Mindfulness-based on meditation is a psychological treatment approach that has increased in research and investigation in recent years (Baer et al., 2012).

Research on individual differences supports the potential importance of mindfulness in drug abuse (Karyadi & Ciders, 2015). In general, there is a negative relationship between mindfulness and drug abuse (Bramm et al., 2013). Regarding drug use and mind-consciousness, theories have been made those individuals with high levels of mind-fullness have a better ability to observe annoying experiences as passing ones and are less likely to engage in addicting behaviors.

Mindfulness helps us to understand that negative emotions are not a fixed and permanent part of our personality. It also allows a person to respond with thought and reflection instead of reacting involuntarily and impulsively to the messages (Shahbaz, 2019). Different dimensions of mindfulness can be related to addiction. One of the most widely used scales of mindfulness introduces its five aspects as follows: acting consciously (being in the present moment and being aware of what we are doing), description (ability to express internal and external experiences), observation degree of presence in internal and external experiences), being non-judgmental (accepting feelings and experiences, without evaluating them positively or negatively) and being non-reactive to internal experiences (allowing emotions to come and go) (Bear, Smith et al., 2006).

According to Bishop et al., (2004), two key concepts in mindfulness are emphasized: 1) paying attention to what is currently happening (recent experience) and 2) adopting an open attitude. Curious and receptive to those experiences. Conscious Mindfulness (Behishyar) more than other aspects of mindfulness can be a predictor of alcohol abuse (Kariadi & Siders, 2015). This variable is also the best predictor of uncontrolled abuse in Levin, Dalrymple and Zimmerman (2014).

One of the mechanisms through which mindfulness may be related to addictive behaviors is the representation of behaviors in people's minds. According to action simulation theory, our interpretation of our behavior in terms of high-level with low-level forms the basis of our self-perception and the continuation of that behavior (Walcher & Wegener, 1987). For example, working with a musical instrument can the title of a low-level action is identified (like playing fingers on the strings) or a high-level action is represented (like the behavior of a musician). Addictive behaviors such as alcohol abuse can be identified as a low-level action

(such as drinking a liquid) or a high-level action (such as stress relief). According to this theory, when behavior is unfamiliar, the low-level representation becomes dominant and the behavior will automatically continue as a habit, allowing the representation of the high-level action. This theory suggests that the ability to use both high- and low-acting identities leads to the use of self-regulation (Wagner & Walcher, 1987).

7.2. Purpose of This Study

The purpose of this study is to examine the influences of attachment style, resilience and mindfulness on tendency to addiction. For the purpose, we compare the differences in attachment styles, resilience and mindfulness between freshmen group with high and low tendency to addiction.

We make three hypotheses based on previous studies as follows:

Hypothesis 1: Secure attachment style of students with high tendency to addiction is lower than with low tendency to addiction, and anxious ambivalent attachment style and avoidant attachment style of students with high tendency to addiction is higher than with low tendency to addiction.

Hypothesis 2: Resilience of students with high tendency to addiction is lower than with low tendency to addiction.

Hypothesis 3: Mindfulness of students with high tendency to addiction is lower than with low tendency to addiction.

7.3. Method

7.3.1. Participant

This research received an ethic check and approval from the committee of the Islamic Azad University. Participants were freshmen with high and low tendency to addiction from Tehran Islamic Azad University. To ensure homogeneity of each group, the number and gender were matched. The number of students in each group was 268 (male: 165, female: 103), consisting of 165 male (61.6%) and 103 female (38.4%), respectively.

7.3.2. Measures

(1) Iran Addiction Potential Scale (IAPS)

IAPS was made by Zargar in 2006 based on psycho-social situation of Iran (Zagar & Ghafari, 2009), evaluating susceptibility or vulnerability toward Substance Abuse in individuals abusing or not currently abusing (Sajadi et al., 2014). The measure contains 36 items and two factor (active potential and passive potential) and 5 lie scale. Active potential includes 28 items and related orderly to antisocial behaviors, tendency to drug consume,

positive attitude to drugs, depression, and sensation seeking. Passive potential includes 9 items and related to non-assertiveness and depression (Zargar & Ghafari, 2009). Each scored on a four-point scale (0 = completely disagree to 3 = completely agree). People who have given more than one or two false answers in 5 questions related to the lie detector will be removed from the statistical sample of the research. In this study. The total score of IAPS was used.

The reliability of this scale was calculated with Cronbach's alpha of 0.90 in the study of Zargar and Ghaffari (2009). The alpha of the first factor (active) was 0.91 and the second factor (passive) was 0.75. Zargar (2015) used criterion validity and construct validity to calculate the validity of this scale. The score of addicted people was higher than the normal group, so the criterion validity was confirmed. To check the construct validity, the correlation coefficient between the IAPS and the 25-Symptom Checklist Scale was found to be 0.45, which was significant at a level less than 0.001 (Zargar, 2015).

(2) Revised Adult Attachment Scale (RAAS)

RAAS (Collins, 1996) was developed to assess individual differences in attachment style based the Adult Attachment Scale (Collins & Read, 1990). This scale includes self-evaluation of the skills of creating relationships and self-description of the way of forming attachment relationships with close attachment figures, and it contains 18 items that are marked on a 5-point Likert-type scale that ranges from not at all It does not match with my characteristics. This 18-item scale contains three subscales (each with 6 items): (a) the close subscale measures the extent to which a person is comfortable with closeness and intimacy; (b) the depend subscale assesses the extent to which a person is comfortable depending on others and believes that people can be relied on when needed; and (c) the anxiety subscale measures the extent to which a person is worried about being rejected and abandoned by others (Collins, 1996). Participants are asked to respond to each item in terms of their general orientation toward close relationships. Cronbach's alphas in Collins research (1996), for the close, depend, and anxiety subscales were .77, .78, and .85, respectively.

In Iranian version RAAS consisted with the factors of secure attachment, avoidant attachment and anxious-ambivalent attachment (Mohammadi, 2016). The close subscale corresponds to secure attachment, the depended subscale corresponds to avoidant attachment, and the anxiety subscale corresponds to anxious ambivalent attachment. Pakdaman's research (2010), the reliability of the test was shown using retesting, which is at the level of 0.95 and Cronbach's alpha values are equal to or more than 0.80. Mohammadi (2016) showed the reliability of the questionnaire was 0.68 using Cronbach's alpha.

(3) The Connor-Davidson Resilience Scale (CD-RISC)

This scale was prepared by Connor and Davidson (2003) by reviewing the research sources of 1979-1991 in the field of resiliency. CD-RISC includes 25 items which is based

on a Likert scale between zeros to four. Higher scores reflecting greater resilience. In participants in a clinical trial for PTSD, sensitivity to treatment effects was examined and found that increased CD-RISC scores were associated with greater improvement during treatment. Improvements in CD-RISC scores were found to be proportional to overall clinical improvement, confirming its validity (Connor & Davidson, 2003).

In a study aimed at standardizing the Connor-Davidson Resilience Scale (CD-RISC) in Iranian stroke patients, Cronbach's alpha was 0.89, indicating that the CD-RISC was highly reliable for the population in this study. The results of the study showed that the CD-RISC was highly reliable for the population of this study. The results of the same study also showed that functional status was a variable that predicted the resilience of the subjects ($\beta = 0.41$; $P < 0.01$), making it suitable for clinical use and research applications in the Iranian population.

(4) Mindful Attention Awareness Scale (MAAS)

The MAAS investigated mindfulness as an attribute that varies between and within people (Brown & Ryan, 2003). The scale is a 15-item (1-6 Likert scale) questionnaire to assess dispositional (or trait) mindfulness. Brown and Ryan (2003) conducted various studies to confirm the reliability and validity of the scale. Referring to some of them, Pearson's product-rate correlation coefficient for the 4-week intervention survey results was .81, confirming high retest reliability; Cronbach's alpha coefficients were .86 and .87 for the two samples, respectively; conducted a study in Iran using this scale as well and found Cronbach's alpha coefficient to be adequate at .70-.81. Retest reliability was also high at .74-.86 (Carlson et al., 2005).

7.3.3. Investigation Procedure

Participants were given explanations about the research and its voluntary nature. After obtaining the written consent of all the participants, they completed the demographic profile questionnaire, the attachment style questionnaire, the resiliency questionnaire and the mindfulness questionnaire in a calm environment and individually under the supervision of the examiner. They were asked to read the questionnaire instructions and all the questions read carefully and choose the option that applies to them the most. Since the researcher had observed the effect of order in the arrangement of the questionnaires at the very beginning, the researcher did not have any missing data. The collected questionnaires were completely confidential after being collected, coded and analyzed.

7.4. Results

7.4.1. Basic Statistics

Table 7-1 showed the mean and standard deviations of the score of RAAS, CD-RISC and MAAS in students of high and low tendency to addiction.

To investigate the differences between the groups in the studied variables, we need to use an analysis of variance. Changeable products are useful. One of the assumptions of this analysis is the equality of matrices in the covariance is high. The results of the Box test prove.

**Table 7-1: Descriptive statistics of the studied variables
to separate the type of drug addiction**

Variables	low tendency to addiction		high tendency to addiction	
	Average	standard deviation	average	standard deviation
avoidant attachment	8.35	3.36	9.57	3.99
secure attachment	12.09	3.21	11.95	3.49
anxious ambivalent attachment	6.90	3.57	9.76	3.58
resilience	75.51	13.66	68.31	13.62
mindfulness	61.47	8.85	52.72	10.21

That this presumption has been established ($F= 2.88, p<.05$).

Also, based on the Lone test, the conditions of equality of error variances it was established. Therefore, a multivariate analysis of variance has been implemented and its results indicate a significant difference (Lambda Wilks=.54, $F=14.974, p<.001$). The difference was analyzed by univariate analysis of variance as described below.

Table 7-2: The results of unilabiate variance analysis to examine the patterns of differences in the studied variables according to the type of addiction tendency

Variables	F-value sig
avoidant attachment	7.82 **
secure attachment	0.11
anxious ambivalent attachment	44.31 **
resilience	19.24 **
mindfulness	59.39 **

** $p < .01$

As can be seen in Table (7-2), there is significant difference in avoidant attachment ($F=7.82$, $p<.01$), and anxious ambivalent attachment ($F=44.31$, $p<.00$) according to the type of addiction tendency. There was no significant difference was observed in safe attachment. These results showed that students with high tendency of addiction showed high score in avoidant attachment and anxious ambivalent attachment.

There is significant difference in resiliency ($F=19.24$, $p<.00$) and mindfulness ($F=59.39$, $p<.00$) according to the type of addiction tendency. These results showed that students with high tendency of addiction showed low score in resilience and mindfulness.

7.5. Discussion

7.5.1. Attachment Styles and Its Influences on Addiction

The purpose of this study was to examine the influences of three attachment styles, resilience and mindfulness on tendency to addiction. We examine to compare the difference of these factors between freshmen with high and low tendencies to addiction by an analysis of variance.

The first findings of the analysis showed that there were significant differences in avoidant and anxious ambivalent attachment styles between freshmen with a high tendency to addiction and those with a low tendency to addiction, which is consistent with the findings of Morley and Morgan (2011), Far Khojasteh, Abdollahi & Ghasemzadeh (2014), Kheiri, Abdollahi & Shahgholian (2013) and Anderson (2012). But there was no significant difference in secure attachment style. But there was no significant difference in secure attachment style.

Avoidant attachment with low levels of commitment and self-care, and ambivalent attachment with anxiety about lifestyle issues, severe stresses and low satisfaction (Fancy & Nels, 1990). People in adulthood with unsafe attachment styles (avoidance and ambivalence) are helpless in the face of stress and they lack the skills to live (Almodo et al., 2013).

An underlying assumption of Bowlby's theory is that physical or psychological stresses automatically activate the childhood attachment system. When an attachment system is active, depending on the type of attachment style in the individual, he is looking for a way that is accessible and satisfies his security and is led to find a solution tailored to the attachment style of the individual. Therefore, the likelihood of a combination of high-risk behaviors, including drug abuse is higher for individuals with unsafe attachment style than with safe one.

Secure attachment style is considered to relate to positive features including satisfaction with life, intimacy, proper adjustment of negative emotions and problem-oriented issues. So, a safe attachment style was expected to relate to a low tendency to addiction, but the style didn't have a significant relationship with addiction tendency.

7.5.2. Resilience and Its Influences on Addiction

The second finding of the study showed that there was a significant difference in resilience between freshmen with high addiction tendencies and those with low addiction tendencies. Freshmen with low resilience have high addiction tendency and those with less resilience have a low addiction tendency, which is concordant with the findings of Ghanbari-Talab & Fuladchang (2015), Mullayi Yasavoli & Abdoli (2015), Nicholas & Robert (2014) and Ervalv, Glermo & Hertensid (2008).

People with low levels of resilience do not have a clear goal in their lives and have not found any meaning in their lives. They are also losing their motivation when faced with problems, they are not flexible in their lives, and they are always in fear and thus tend to use drugs in threatening situations and circumstances.

These people act very vulnerably against problems and break quickly and cannot healthily control their emotions and feelings. In times of crisis, they are struggling to imagine themselves as victims and inferior ones, and they are not able to achieve safe and secure solutions by using problem-solving techniques (Bagheri Yazdi, 2005).

It can be argued that people with high resilience have more power to control their impulses, and this reduces their tendency toward addiction (Ghanbari Talab et al., 2015). Resilient people have skills such as problem-solving, effective explanatory style, self-efficacy and social support that help them to survive in adverse conditions and experience negative emotions and maintain their mental health and wellbeing.

7.5.3. Mindfulness and Its Influences on Addiction

The third finding of the study showed that there is a significant difference in mindfulness between freshmen with high addiction tendencies and those with low addiction tendencies. Freshmen with a high level of mindfulness tend less to addiction. Those results were aligned with findings of Fazilatpour et al., (2017), Jafari et al., (2017), Grow et al., (2015) Brewer et al (2010).

It can be argued that the high-mindfulness makes individuals create a radically different relationship with the experience of the inner feelings and external events by creating moment-consciousness and behavioral orientation based on wise responsibility rather than auto-reactivity, and allows the individual to be more aware of the anxiety and the circumstance. Mindfulness can be effectively applied to emotional responses by utilizing purposeful mental high functions such as attention, consciousness, kindly attitude, curiosity and compassion (Zidane et al., 2012).

In one's exposure to risky situations, mindfulness increases the power of coping with the temptation of drug abuse. Also, based on the theory of replicating the practice, the mind with mindfulness alerts the individual to the various components of the behaviors that it does, monitors its behavior and prevents unwanted behavior (Schellhas, 2016). Therefore, people with high mindfulness have less tendency to addiction.

7.6. Limitations

The findings of this study were based on the research using a statistical sample limited to university freshmen in Tehran who are expected to have relative low tendency to addiction. Therefore, the studies using samples with socio economic and cultural variety should be conducted. And the study could not find out the process that attachment style, resilience and mindfulness influence on the tendency to addiction, so the process should be examined by other research method such as interview or longitudinal study.

7.7. Practical suggestions

Among the research constraints, the selection of addictions among freshmen, the lack of matched used drugs among drug addictions and the duration of drug addiction, and the uncontrolled effects of variables such as personality traits and self-report questionnaires, were the factors which threaten the internal validity of research results.

Therefore, given the results, it is suggested that workshops to increase mindfulness and resilience should carry out for people with a high tendency toward addiction. And early interventions and training for parents about appropriate attachment manners and proper communication with children can also be carried out.

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Chapter8:Effects of Mindfulness-Based Relapse Prevention on the Symptoms of Methamphetamine Addiction

8.1. Introduction

8.1.1. Methamphetamine Addiction

The term addiction means getting used to and feeling needed (Sadock & Sadock, 2015).

Drug addiction means a morbid addiction to the use of one or more types of drugs that causes substance abuse and, if not used, causes symptoms of deprivation in the addicted person (Karpov et al., 2015). Pita (1985) argues that alcoholism or other substance abuse does not mean that a person is drunk or ecstatic, but rather a personal condition that has repeatedly been drinking or using drugs which their personal, family, and job life is saddening (Doyle & Samson, 1985).

This psychological dependency process may be drawn to other things like eating, sex, gambling, and even work. In general, a person becomes obsessed with drinking or drug using or engaging in other things that can not enjoy life without them (Shah Mohammadzadeh et al., 2014).

The World Health Organization (2015) defines addiction as "a chronic condition that disrupts people and society through frequent use of narcotics and stimulants (natural or synthetic)". The obvious characteristics of addiction include the intense and uncontrollable desire to acquire material at any cost, the increased use of it at random, and the intense psychological and, sometimes, physical, reliance on the use of that substance (Farook et al., 2022).

Addiction is an anomaly with clinical, behavioral, and cognitive symptoms that its creation is by social and psychological factors on the one hand and biological and cognitive factors on the other (Parvizifard et al., 2022). Social factors are more effective at the onset of consumption and biological factors in the continuation of addiction. Psychosocial and personality problems are interlinked with addiction and simultaneous drug abuse and prognosis leads to worse treatment in the course of drug abuse and other psychiatric disorders, it overlooks mental and physical abnormalities before and after withdrawal (Roehr, 2013; Vojoodi et al., 2014). Drug withdrawal is one of the issues that has always been a concern for authorities, as well as those who have been abusing drugs and their families. Drug withdrawal is not so difficult physically, but the main problem is to relapse and start it again (Hanlon & Gray, 2022). Addiction is a chronic and recurrent disease, and several

factors (biological, psychological, social, and family) are involved in the relapse of symptoms after completion of detoxification.

Ezati et al (2022) describe the factors influencing addiction recurrence as follows: Methamphetamine is one of drug which cause addiction. The prevalence of unauthorized use of methamphetamine over the past 10 years has been rising and is currently hosted for psychosocial adverse effects (for example, unemployment), psychiatric complications (for example, depression), and medical conditions (for example, Cardiovascular). Methamphetamine also has neurotoxic effects, and its chronic abuse is associated with adverse effects on neurotransmitters (e.g., dopamine emptying), and the functional and structural integrity of the nervous system in the anterior-posterior and limbic circuits (Li et al., 2022).

In addition, methamphetamine addiction is associated with neuropsychiatric disorders. Estimates in various studies of the effect size have shown a moderate difference in various functional areas. The greatest disturbances in episodic memory, executive functions, information processing speed, and minor quantitative impairments related to motor skills, language, and the ability of vasoconstriction are the greatest ones (Fakharbad et al., 2022).

8.1.2. Mindfulness and Its Practice

Being manful comes from the English language. It is opposite to the word neglect or auto direct. Mindfulness has been defined as a mode of attention and awareness of what is happening right now (Shireen et al., 2022). Emphasizes the growth of three levels refraining from judgment, judgmental awareness, and focusing on the present moment in an individual's attention.

Attention focused on the present moment, the processing of all aspects of high intermediate experience involves cognitive, physiological, or behavioral activities. By practice and focusing on mind-training techniques, a person becomes conscious of daily activities, recognizes the automatic functioning of the mind in the past and future, and through instantaneous awareness of thoughts, feelings and physical states gets control of them and gets released from every day and automated mindsets focused on the past and future (Levi et al., 2021). The human mind habitually examines past events and is trying to anticipate the future and, therefore, becomes easily distracted. Mindfulness is a method of processing attention that originates from Oriental meditation and is described as full attention to the experiences of the present momentarily. It is also defined as paying attention to a particular way in the present, without judgment. In clinical psychology, the presence of the mind is the attention to the present moment, in a non-judgmental manner and focused on the goal (Feruglio et al., 2021).

Mindfulness is not a technic to deal with the past by correcting the wrong way of thinking in the past and does not directly go into problems, instead, it focuses on examining the underlying stimuli of cognition and excitement and exposing the hidden themes of life to consciousness. Thus, without judging or blaming, shows that first, emotions are composed of thoughts, physical senses, raw feelings and impulses; second, they are often a deep and expanded indication of inefficiency, how we communicate with ourselves, others, and the world; they announce internal and external information and are signs that should only be observed and judged at this moment without judgment or blame. Thus, mindfulness is a method of training the mind and acts like a microscope that shows the deepest patterns of the mind, when the mind is observed actively, thoughts and emotions disappear automatically. (Stephen & Mehta, 2019). Mindfulness as a lifestyle, by using meditative exercises that merge in everyday life, helps individuals to become familiar with dual mindsets and consciously use them as a coherent mind. With this method, people realize that not only they do not just think, but also can see their thinking. Through formal meditations (such as breathing and body meditation, wakeful yoga and meditative body scanning), as well as informal meditations (such as eating, walking, taking a bath, etc.), and non-habitual exercises, everyone learns to Live "here" and "now" (Zollars et al., 2019).

The inability to stay in the moment now distances the individual and reality and makes him not properly understand the situation and cannot provide reasonably well-informed answers. Many scientific studies have shown that the cause of many mental problems of individuals is the absence of them here and thereafter to the present moment of their life (Iwamoto et al., 2020).

While the mindfulness person is aware of the inner and outer realities freely and not distorted, they can deal with a wide range of thoughts, emotions and experiences (both pleasant and unpleasant). The mind's presence is associated with elements such as acceptance (reality), presence (in the present time), avoidance of obsessive rumination, including the promotion of well-being and awareness of oneself and the environment along with modifying the mind (Erkan et al., 2020).

Research on transcendental meditation (TM), mindfulness meditation, Vipassana meditation, yoga, and other meditative techniques have reported significant improvements in the rehabilitation of adolescents and alcoholic prisoners (Whitkiewitz, & Walker, 2005). Reducing mental pressure by meditation may be a major contributor to preventing relapse. In early 1975, meditation was found to help reduce stress in the parasympathetic nervous system (Bamber, 2019).

Mindfulness also helps the person to figure out how to discover peace and satisfaction again from the depths of his existence and transform it into his everyday life and his lifestyle; and helps gradually get out of concern, anxiety, fatigue, depression and dissatisfaction. This

approach believes that everyone has periods of pain and tribulation; this pain and suffering with mindfulness becomes sympathetic suffering that leads to a sense of compassion towards oneself and others, while without mindfulness a form of exhausting excitement is experienced that combines with bitterness and anger and becomes associated with a feeling of helplessness (Rusch et al., 2019).

The concept of perception involves a range of possible phenomena from the state and internal psychological processes (thoughts, emotions, images, etc.) and information issued by the body to the external stimulus introduced into the senses (Hamlyn, 2022).

This approach is rooted in Buddhist beliefs that saw the root of psychological suffering as a result of the judging mind that divides experiences into good and bad and that they should be fought or avoided, so it leads to levels of frustration, distress, anxiety and depression. Increasing mindfulness leads to learning new behavioral strategies such as focusing attention, preventing obsessive ruminations and avoiding a tendency to worrying answers and it also spreads new thoughts and reduces unpleasant excitement. Increasing mindfulness leads to the spread of new thoughts and the reduction of unpleasant excitement and increased quality of life (Valim et al., 2019).

8.1.3. Mindfulness Intervention and MBCT

Interventions based on mindfulness aiming at reducing psychological symptoms of distress and increasing the quality of life are increasingly used both in mental health and physical health. The purpose of these interventions is to create clear and non-judgmental mindfulness of what happens at each passing moment in perception (Zhang et al., 2022).

Unlike many psychotherapy schools and, of course, consistent with the goals and assumptions of positive psychology, the purpose of using the mind's presence is not to create ideological changes, but to help to be aware of the processes that make the person appear in a harmful or inactive mindset of those mental states (Mohammad Khani et al., 2012). Considering that mindfulness as a lifestyle is consistent with human nature, and has the potential to affect the emotional system of individuals such as thoughts, physical senses, raw feelings and impulses of their actions, their view of life and improving the quality of their communication with themselves, others and the world with a compassionate and realistic acceptance (Ma et al., 2022).

With the help of the mindfulness technicians, people learn practically to observe without judgment and criticism, along with compassion towards themselves and others, which by observing the emotional and stressful thoughts and sad patterns of negative thoughts before having a faulty cycle in this way, recognize them and in the long run, the mindfulness makes a lot of change in the mood and the level of happiness and health of individuals. Scientific research has shown that mindfulness not only prevents depression but also has a positive

effect on mind patterns in terms of anxiety, anxiety, depression, irritability and anger (Noone, 2022).

Recently, however, meditation-based psycho education has been reported to be effective in treating psychiatric symptoms in schizophrenic patients and its application to various psychiatric disorders has been expanded. While there is no doubt that advances in psychiatric drugs have played a major role in the last two decades, an important factor is that mindfulness meditation is a technique that enhances the power of attentional control and decentering associated with the improvement of mental illness (Chien et al., 2014).

Newer studies on mindfulness meditation use the main approach of Kabat-Zinn (2003) to treat substance abuse as well as depression, anxiety and pain. The cognitive mechanism remains unclear about how to do this with the prevention of return and the long-term benefits of meditation (Witkiewitz, et al., 2005).

At the moment, there are two formal approaches to mindfulness intervention, these are MBSR and MBCT. Most awareness approaches such as mind-boggling stress reduction (MBSR) and mind-cognitive cognitive therapy (MBCT) are inspired by the oriental traditional methods of meditation (Kabat Zinn, 2015).

However, other therapeutic approaches, such as acceptance and commitment therapy (ACT), have been developed, which have used non-meditative methods to enhance mindfulness. But meditation in the training and understanding of mindfulness is still very important. Meditation refers to daily exercises that train the wandering mind to focus on a single subject, often by breathing. Breathing, a practice that is naturally often performed automatically acts as an anchor in meditation for being present here and now and shows the pattern of inner feelings (Calobrisi, 2022).

Mindfulness is not included as a main component of the intervention as in MBCT, but as a single component of the intervention, such as Linehan's Dialectical Behavior Therapy (DBT) and Hayes's Acceptance and Commitment Therapy (ACT). Dialectical behavior therapy is known to be an effective intervention program for borderline personality disorder. In dialectical behavior therapy, four key skills are trained with the goal of balancing between "change and acceptance," accepting oneself without judgment, and changing self-harming behaviors so that one can live a healthier life (Bredero et al., 2022).

Mindfulness techniques and exercises such as eating raisins, body scanning, sitting meditation, yoga, meditation, and walking are used, as well as informal mindfulness exercises in daily life. Therefore, this article described specific techniques and exercises in mindfulness-based cognitive therapy (MBCT) in the form of meetings and their contents. It also expresses the fundamental assumption that the mind has two extensive modes being and doing mode (Shiqi et al., 2022).

This approach was built to prevent recurrence in patients suffering from depression during the relative recovery period. Nevertheless, researchers have confirmed its effectiveness in other disorders such as eating disorders, post-traumatic stress disorder, bipolar disorder, dysthymia and anxiety disorders. In general, the human mind with two methods communicates with the world. Being mode and another doing mode. In being mode, the emphasis is on accepting and would not attempt to change ways, in the mode required to achieve the objectives, specific standards evaluate what is not there. In this mode, there are no requirements or achieving the targets and specific evaluating standards as it exists. Mindfulness-based cognitive therapy (MBCT) is an eight-week group-based is designed with the structure and process of the MBSR program. It formed the core of meditation exercises (Interian et al., 2022).

Practices are a way of what Kabat-Zinn calls ‘purposefully paying attention to things we ordinarily never give a moment’s thought to’. They help keep you conscious of where you are and what you are doing throughout the day, rather than stumbling from one hour to the next on autopilot, focused only on going-home time. Meditation is done in two formal ways (such as breathing meditation, body scan meditation, and the meditation of conscious movements) and informal (such as conscious walking, showering, eating consciously, etc.) and non-habitual practices (Querstret et al., 2020)

Kabat Zinn (1990) considers strategies that explain how mindfulness skills reduce symptoms and behavioral changes. These strategies are 1- Deconcentrating, 2- Exposure, 3- Cognitive change, 4- Self-management, 5- Relaxation, 6. Admission.

1) Deconcentrating

Decentration is the ability to focus on the present moment and nonjudgmental state about thoughts and emotions and accept them. Research has shown that deconcentrating can reduce depressant rumination levels by teaching more adaptive ways related to patients` thoughts.

2) Exposure

The first study that described the effects of MBSR was its use in the treatment of patients with chronic pain. The MBSR style is partly based on traditional meditation and includes a long meditation of about 45 minutes. Prolonged immobilization can cause pain in the muscles and joints. In the instructions given to the authorities in meditation, it is emphasized that they do not change their state to relief from pain; instead, they must pay close attention to the senses of pain and pay attention to these senses with a non-judgmental attitude. Also, pays precise attention and accepts cognition (this is intolerable), emotions (anxiety and anger) and action (change of condition) that are associated with the senses of pain (Crovetto et al., 2021).

3) Cognitive Change

It is believed that the ability to observe without judgment reduces the sensation of pain and distress associated with pain (Kabat Zinn, 1990).

4) Self-Management

Several authors have argued that the experiences of mindfulness can lead to changes in thinking patterns or attitudes about one's thoughts. For example, Kabat Zinn (1990) recommends that observing without judgment about pain and thoughts associated with anxiety may lead to an understanding and perceiving that "they are just thinking" that they are neither true nor real, and that they should not necessarily be cause for escape or avoiding behavior. Linnaean (1993) also points out that the observation of thoughts, and feelings, and the use of descriptive labels to understand them give rise to the understanding that they do not always represent descriptions of reality. At the stage of cognitive change, individuals learn to view their thoughts and feelings without judgment and see them as mere events that are passing and are not signs of reality. In this perspective, people learn that they are not trapped in their rumination patterns (Kolahi et al., 2022).

5) Relaxation

Self-improved observation due to learning about mind presence can enhance the use of coping skills. Kabat Zinn (1990), for example, states that increased awareness of pain sensations and stress responses enables individuals to be involved in a variety of coping responses. Kristlere and Halt (1999) claim that the development of their observational skills during the training of the mind presence increases the recognition of the clues in the gluttony. Similarly, it increases the ability to observe the tendency to gluttony.

6) Admission

The relationship between meditation and relaxation is a bit complicated. Several authors (Kabat Zinn, 1990) have suggested that the presence of stress-induced mind presence may be used in stress-related medical disorders such as psoriasis and fibromyalgia. These authors point out that meditation is generally relaxing and can be effective in managing this disorder. Although the creation of calmness has been proven through various meditation strategies. But it is necessary to explain that the purpose of teaching mindfulness is not to create relaxation but to relax observation without judgment of the conditions at the moment. Conditions that may trigger an autonomic nervous system stimulation, competitive thoughts, muscle tension and other phenomena incompatible with relaxation. In addition, evidence suggests that the effects of relaxation are not limited to meditation, but there exist many relaxation strategies. Hence, although mental activity exercises may lead to relaxation, this outcome is not the primary reason for engagement in mindfulness skills (Zhang et al., 2020).

7) Acceptance

The relationship between acceptance and change, which is the central concept in the common psychological discussion. Hayes, Pistorell and Levin (2012) state that admission includes "the experience of completely and defenseless events as they are," and noted that clinical experts who are experientialists may be concerned with the importance of changing all unpleasant signs, overemphasis, and not paying attention to the importance of admission. For example, a person who experiences panic attacks may engage in multiple maladaptive behaviors to prevent future panic attacks. Including substance and alcohol abuse, avoiding significant activity and extreme and obsessive vigilance about physical states. By accepting, the individual admits that panic attacks, which may occur occasionally, are endemic and not dangerous, and although they are unpleasant, they must be tolerated and should not be avoided or considered dangerous (Gloster et al., 2020).

Mindfulness-based cognitive therapy was somehow introduced to Japan by Kabat-Zinn as the Professor Emeritus of the University of Massachusetts Medical School, who is known as a pioneer in introducing mindfulness to the psychological and clinical field. However, the meditation technique and the state of mind itself, which is now expressed in the term mindfulness, were already introduced to Japan in 1990 and attracted the attention of only a few researchers (Bai et al., 2020).

Haruki reinterpreted meditation, yoga, and qigong, practices that originated in Eastern thought and religion, as techniques for behavioral transformation, and supported the development of research by building an international network of researchers at a time when there were few researchers on these techniques. The Ibuka Fund, which was established by Waseda University with a designated donation from one of the founders of Sony, Mr Hiroshi Ibuka, was used for this activity. As part of this activity, Haruki, who was in charge of the fund, invited the young Kabat-Zinn to give a meditation symposium at the International Conference of the Japanese Society of Health Psychology in 1993 and also invited facilitators of other meditation techniques such as Meditation and the Benson Method to hold an international workshop in Makuhari to experience various forms of meditation. At that time, there were few people interested in the field of psychotherapy in Japan, and only a few participants, since it had not received as much attention in the West as it does today (Griffiths et al., 2018).

8.1.4. Mindfulness-Based Relapse Prevention

The history of preventing the relapse of addiction dates back to mid1970. During these years, some have become interested in the prevalence of prevention strategies (Vadivale et al., 2019).

Studies show that between 20% and 90% of addictions undergoing treatment, relapse. Recent studies have shown that the effectiveness of preservative treatments without psychosocial interventions is due to poor drug compliance and high levels of poor defluxion (Shiqi et al., 2022).

The book "Mindfulness-Based Cognitive Therapy for Depression-A new approach to preventing relapse" (Segal, et al., 2002), not only describes the effectiveness of a randomized controlled trial in preventing relapse in depression after three or more repeated relapses and the mechanism of its effectiveness, but also includes a detailed program description and handouts to clients. The authors of this book were already well-known researchers in the field of cognitive behavioral therapy, so there was a spiritual image of meditation and the impression that the scientific methodology has proven its effectiveness.

One of the innovations in psychological treatments, especially the treatment of addiction, is the combination of Eastern spiritual traditions, including mindfulness meditation techniques with traditional cognitive-behavioral treatment, which this combination is considered the third wave of behavioral therapy. Mindfulness-based interventions are also being considered in the treatment of substance abuse disorder (Bredero et al., 2022).

Researches show that in the treatment and prevention of relapse, negative and positive emotional states, desire and temptation are among the most important risk factors for recurrence (Marlatt & Witkiewitz, 2005). In the study of the a etiology of substance abuse and relapse, different researchers and theorists, deficits in excitement, emotion dysregulation low tolerance for discomfort, emotional avoidance, habitual behavior without thinking rumination, bias towards drug markers, low self-efficacy, defective Coping skills and spiritual vacuum (Chien et al., 2014). Therefore, in the treatment and prevention of recurrence of drug abuse, the use of methods that can affect these problems is essential and may increase the effectiveness of treatment.

Theoretical foundations and the conceptual framework of this research are extracted from Alan Marlatt's relapse Prevention Model based on mindfulness. Marlatt's theoretical framework is that increasing self-awareness improves coping skills through mindfulness meditation. Substance dependents can be trained to recognize early warning signs of desire.

Therefore, meditation confirms a new method of response that is more thoughtful and effective than indications or stimuli that encourage relapse prevention (Valim et al., 2019).

Mindfulness meditation elements include body scan, or body awareness technic, which involves a series of deliberate changes that focus on the entire body at first and then on any part of it in a non-judgmental manner. Learners are trained to see the emotions, cognition and external events while learning about breathing. The formal exercises of mindfulness include walking meditation. In Kabat-Zinn's view, the purpose of mindfulness is not consciousness changes state, but self-observing by being at the moment or without evaluation (Kabat-Zinn,

1990). Some scholars believe that the use of the mindfulness method, due to its mechanisms, such as admission, increase awareness, sensitization, presence at the moment, observation without judgment, confrontation and letting go in the combination with the traditional techniques of cognitive behavioral therapy due to the effect on these processes, can increase the effectiveness of treatment and reduce the recurrence of drug abuse while reducing symptoms and post-withdrawal symptoms (Witkiewitz & Walker, 2005).

8.1.5. The Effects of Mindfulness Intervention

Himmelstein et al., (2015) in a study, to improve flexibility and self-regulation, performed mindfulness interventions in groups of 35 people for 8-12 weeks each. The results indicated that mindfulness interventions are effective on concentration, mental health, self-esteem and attitude toward substance abuse.

Chiesa and Serretti (2014) reviewed the effectiveness of Mindfulness Intervention on substance abuse disorders in a review article. These studies, which were including 24 studies since 2011, showed that mindfulness Intervention could be effective for consumers of several types of substances, including alcohol, cocaine, amphetamine, marijuana and cigarettes. Most studies also show that mindfulness interventions can reduce abuse cravings.

Witkiewitz (2014) in a randomized controlled study of 105 women in addiction treatment centers found that mindfulness interventions were more effective than other interventions in preventing relapse, and those receiving interventions would have reported reduced drug abuse and reduced legal and/or medical difficulties during the day.

Collins and Marlatt (2013) showed that addicted participants with low disturbance tolerance who received a Mindfulness based Recurrence Prevention program had a significant reduction in the negative outcomes of drug abuse during 4 months compared to those with low disturbance tolerance who received regular drug abuse treatment.

Witkiewitz et al., (2013) in their study showed that mindfulness promotes admission and awareness of one's own experiences that prevents the recurrence of substance abuse and is effective in a wide range of problems such as borderline personality disorder, drug abuse, psychological trauma and depression.

Witkiewitz and Bowen (2013) showed in their research, that the mindfulness education and schema therapy method has been able to effectively increase the effectiveness of the treatment of drug addiction and is effective in preventing the recurrence of opioid abuse and is more effective than traditional cognitive behavioral therapy.

Vieten et al., (2010) Found that following 8 sessions of coping based on an admission program for relapse prevention, which resulted from a few mindfulness interventions, there was a significant decrease in cravings, negative emotions, emotional responsiveness and

perceived stress, as well as increased meaning in negative emotional and psychological well-being, was seen following intervention execution.

Barnhofer et al., (2009) in their research titled cognitive therapy based on mindfulness showed that symptoms of depression had decreased from severe to moderate after treatment. Also, in this study, it was shown that after reducing the mindfulness-based stress reduction training, the number of patients with depression criteria decreased. In other words, symptoms of depression were decreased in them.

Bowen et al., (2009) examined the effectiveness of prevention Interventions of recurrence based on Mindfulness compared with standard care in a free private clinic that provides a range of care services for abuse disorders. The results showed that people in the experimental group consumed fewer days of alcohol or other substances during the two months after the intervention, and showed a significant decrease in craving and increase in admission.

8.1.6. Mindfulness Intervention in Iran

In research of Pirnia et al. (2017) named "The Effectiveness of the MBSR Program on Reducing Pain in Improving Men in the Depletion Phase of Morphine "announced treatment of mindfulness has a significant effect on the improvement of sensory and neuropathic pain indicators, although the effectiveness of the above treatment was not significant on emotional pain component.

In a study of Jafari et al. (2017) entitled "A Comparative Study of Mindfulness and Emotion Regulation in Treatment-Resistant drugs abusers", it was concluded that those who consume substances with recurrent episodes compared to those who consumed substances that did not leave the last year and healthy subjects had higher levels of lowering, reassessment, and lower mindfulness; and those who consumed the substances that did not relapse in the last year compared with healthy subjects showed lower awareness and reassessment, and eventually high levels of lowering.

In a study of Keramati and Marefati (2016) entitled "The Effect of Teaching Cognitive Strategies Based on Mindfulness on the Self-efficacy of Addicted Patients", it was concluded that there is a significant difference between the mean scores of post-tests self-efficacy after eliminating the effect of pre-test in the experimental group. In other words, knowledge-based cognitive therapy training significantly increased self-efficacy in the experimental group in the post-test phase compared with the control group.

In a study of Salimi et al. (2016) entitled "Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) on the Craving of Methadone-treated heroin addictions", it was concluded that Mindfulness-based cognitive therapy significantly reduced heroin scores in the experimental group rather than control in Post-test and follow-up.

In research of Noruzi and ShahHosseini (2016) entitled " Mindfulness-based Cognitive Therapy and Drug Abuse disorders: A Theoretical and Research Review", it was concluded that Mindfulness-based Cognitive is an effective intervention for substance abuse disorders that are used for a variety of drug abuse disorders and are recommended in Various samples and drugs abuse disorders.

In a study of Basharpour (2016) entitled "The Effectiveness of Teaching Cognitive-Behavioral Counterfeiting Skills and Mindfulness-based Prevention Program on Improving the Motivation of Treatment of Substance-dependent People", it was concluded that there is a difference between the scores mean of three groups of post-tests in the cognition and step-by-step variables. The results of the Bonferroni post hoc test showed that the two methods of treatment were effective in increasing the recognition, but prevention of recurrence based on mindfulness was more effective in follow-up therapy.

A study of Jahangir et al. (2016) entitled "investigation of Comparison of group mindfulness methadone-based treatment on opioid addictions' mental health" was conducted, and the results of repeated measure ANOVA showed the effectiveness of both therapeutic models on increasing mental health in opiate abusers. In addition, there were no significant differences in age variables, onset age, and the number of recent recurrences, and there was a significant difference between the length of treatment and the number of unsuccessful withdrawals between the groups.

In research of Michel and Chaskalson (2016) entitled "Comparing control of thought, mindfulness and attachment styles in students with high and low addiction tendency ", it was concluded that students who are more inclined to addiction have lower control of thought and the level of mindfulness than students with a lower tendency to addiction is higher than others. Also, the mean scores of avoidant attachment and ambivalent attachment students with a high tendency to addiction are higher than those with a low inclination toward addiction.

In a study of Sedaghatzadeh et al. (2019) entitled Comparison of the Effectiveness of mindfulness-based group therapy with Conservative Therapy on Reducing Harmful Behaviors and Explosive Anger in Opiate Substance Abusers, which was conducted on 57 substance abuse patients, showed that although both interventions mindfulness-based group therapy and common therapies have led to a reduction in risky behaviors and impulsive behaviors in opiate-drug addictions, a Mindfulness-based therapy is more effective in this regard and significantly increases mental health after withdrawal of substance abuse. In addition, the results showed that the effect of treatment in the follow-up period was also evident.

In a study of Soleimani et al. (2015) entitled "Effectiveness of the therapeutic approach to activating mindfulness-based spiritual schemas in reducing symptoms of drugs abuse and

impulse control in methamphetamine addicted men", it was concluded that between the two experimental and control groups in terms of dependent variables i.e. the level of mental and psychological symptoms and impulse controls there is a significant difference in both phases of post-test and follow-up in the level of 0.01. Also, the effects of intervention after 3 months showed significant stability. The findings of the present study showed that the activation of mindfulness-based spiritual schemes therapy has been able to significantly reduce the symptoms associated with both dependent variables in the research.

In a study of Mardpour et al. (2016) conducted research on the effectiveness of prevention of recurrence based on mindfulness in preventing recurrence, abuse craving and self-control in opiate-dependent individuals. This research was conducted in a pilot-pre-test-post-test with a control group. The sample consisted of 31 male patients with addiction in Yasuj, who were selected by judgment and with necessary criteria from a client who was referred to addiction treatment clinics. The mindfulness method for 6 sessions on participants in the craving variable was lower than in the control group and increased self-control.

In a study of Kazemian (2013) conducted research titled the effectiveness of mindfulness-based cognitive therapy on the general health of addictions in self-care treatment. The study was conducted on 40 people who were referred to the rehabilitation Centre outpatient addiction departments affiliated with the Mashhad welfare organization. The results showed that the mindfulness-based cognitive therapy method affects general health, physical health, anxiety, social function, and depression of self-healing addictions. The interference effect was also stable.

A research of Hamed et al. (2013) entitled "Effectiveness and Consultation on Reducing Injury to Prevent Recurrence of Substance Abuse", which was detoxicated over the last week, was selected from all individuals referring to addiction treatment centers in Tehran and divided into four groups: Mindfulness intervention, counseling for reducing harm and substance abuse and control group were replaced. In this research, a mindfulness-based intervention was conducted in 1.5hour×8 sessions and the harm reduction group was also subjected to harm reduction intervention.

The results of this study showed that both methods of Mindfulness and Behavioral Counseling were effective in reducing harm and substance abuse in preventing the recurrence of substance abuse. Mindfulness training and behavioral counseling had the same effect on the reduction of harm and drug abuse in preventing the recurrence of substance abuse.

8.2. Purpose of This Study

Thus, intervention based on mindfulness like MBRP are useful for the reduction of addiction symptoms. We focus on MBRP treatment for methamphetamine addicts, and only

substance use, but self-injury and depression as maladaptive behavioral and emotional symptoms of addiction.

Because self-injury is considered one of the symptoms which drug addicts indicate, as a strategy for escaping from a tense situation. Depression is a disorder symptom that is often associated with severe psycho-social illness and decrease positive behaviors. Depression is also considered one of the most commonly relapse of addiction (Zemestani et al., 2016).

This study aimed to examine the effect of mindfulness-based on relapse prevention on addiction symptoms (i.e. substance use, and self-injury behaviors and depression) of methamphetamine addicts.

The hypothesis of this study is “Methamphetamine addicts who participate in relapse prevention mindfulness treatment decrease substance use, self-injury behaviors and depression”.

8.3. Method

8.3.1. Participants

This research received an ethic check and approval from the committee of the Bijan addiction treatment clinic.

Thirty volunteers were selected as participants from dependent on methamphetamine who were under treatment in Bijan addiction treatment clinic. They were those who met the following sample selection criteria and randomly assigned to intervention groups (15 people) and control group (15 people).

(1) Treatment in T.C.

Treatment in T.C is performed by a psychiatrist, psychologist, social worker, and most importantly, through being among other residents and giving and receiving feedback to improve previous destructive behaviors. Treatment in T.C. is a long-term program (3 months to 2 years) and, as a “No Medicine” program, Treatment in T.C. focuses on changing the lifestyle and rehabilitation of addicted individuals based on learning social skills and healthy social life principles, which is considered in all aspects of their life.

(2) Sample Selection Criteria

The patient should not have any severe mental disorder, retardation or physical disability. The patient should have passed the detoxification successfully. The other criteria such as age and education, material status, income status, number of children are accepted through the agreement of the treatment team.

8.3.2. Measures

(1) Maudsley addiction profile (MAP)

Maudsley's addiction profile was created in 1998 at the Maudsley Institute and by Marsden, Stewart was made in England to assess the outcomes of drug abuse, high-risk behaviors, physical health, mental health and individual and social functioning of the patients (addictions). Its validity and reliability have been confirmed in samples of the European population (Marsden et al., 2001). This profile measures the therapeutic results of drug-dependent individuals (alcohol and other substances) are measured with 63 items during an interview process. MAP is prepared for adults and this synchroscope is specifically designed for research and can also be used to assess patients' conditions and their healing process during the treatment period. Cronbach's alpha coefficient of addiction symptoms scale for the sample size (n=60) was 0.93, it shows that the addiction symptoms scale is highly valid. In general, various research findings suggest that this tool is useful for evaluating treatment outcomes in drug-dependent patients (Barbieri, 2003).

(2) Inventory of Statements About Self-injury (ISAS)

ISAS is the list and behavioral and functional log of self-harm self-report was created by Klonsky et al., (2009). This questionnaire has two behavioral and functional sections. The behavioral section consists of 12 behaviors which are banging/hitting self, biting, burning, carving, cutting, wound picking, needle-sticking, pinching, hair pulling, rubbing skin against rough surfaces, severe scratching, and swallowing chemicals. The functional part measures thirteen types of functions with 39 items. These 13 functions or subscales are emotional regulation, self-differentiation from others, self-punishment, self-care, anti-Semitism, anti-suicide, sense-seeking, belonging to peers, interpersonal influence, proof of power, expression of turmoil, vengeance and autonomy. In the behavioral list section, the authorities must answer the questions in the form of yes=1 and no= 0, and if appropriate, the number of times that behavior is determined. Functional part is measured using a 0-2 scale for each item. The score range of the functional part will be between 0 and 78. The higher the score obtained from this questionnaire, the higher the rate of dysfunction. The content validity of this tool was confirmed by a psychologist and psychiatrist.

(3) Hamilton Depression Rating Scale (HDRS)

The Hamilton Depression Rating Scale (HDRS) is a structured interview to assess the severity of depression (Williams, 1988). The HDRS is the most widely used observer-rated depression scale all over the world and is considered a gold standard in depression studies (Obeid et al., 2018). The original version contains 17 items (HDRS17) pertaining to symptoms of depression experienced over the past week (Hamilton, 1960). The HDRS was originally developed for hospital inpatients, thus the emphasis on melancholic and physical

symptoms of depression. Several versions with different items have been developed, but the 17 item version was used to assess depression symptoms in this study. Scoring method for the HDRS17, a score of 0–7 is generally accepted to be within the normal range (or in clinical remission), while a score of 20 or higher (indicating at least moderate severity) is usually required for entry into a clinical trial. Our research have shown that the HDRS interview time was an average of 12 minutes.

8.3.3. Mindfulness-based relapse prevention (MBRP)

This program is set into 8 sessions of 1.5 or 2 hours. The 8th interventional sessions (Table 8-1) of this study were followed up based on mindfulness-based relapse prevention treatment (Ramadas et al., 2021) which is located in the thesis appendix section.

Table 8-1. Structure of mindfulness-based relapse prevention program

First session	Introducing the members of the group and implementing the pre-imbalance, discussing behavioral limits and explaining the rules and principles and contracts governing counseling sessions, informed consent of the group members to carry out the treatment process, proposing the goals of treatment and making changes possible, and explaining the philosophy of intervention based on this approach, introducing the disease of substance use complications from physical, psychological and social dimensions, identifying the trigger of the checks related to Desire for consumption/ Common psychological complications and disturbances / Familiarity with physical symptoms of anxiety, stress and depression/ Introduction of automatic guidance system/ How to apply awareness in the present moment of physical emotions, thoughts and emotions in reducing stress/ practicing eating raisins and giving feedback and discussing exercise / three-minute breathing space / determining next week's assignment and distributing pamphlets of the first session and CD of meditations.
Second session	Body checkup practice / Overcoming obstacles (anger, fear, resentment, restlessness and distress, drowsiness and fatigue/ Awareness of trigger checkers giving back and discussing body checkup practice / Checking the trigger of the checkers over the past week and recognizing these barriers to quit/Checking the role of family / not struggling / awareness of trigger checkers and temptations/mindfulness meditation breathing awareness/yoga stretching practice / Distribution Meditations.
Third session	Conducting a conscious session with awareness of breathing (sitting meditation)/ attention to awareness in daily life/ awareness of movements/ doing yoga exercises / practicing three-minute breathing space/distribution of third session leaflets and bar related to yoga movements.
Fourth session	Staying with problems, working on problems / Absolute acceptance / Guide to dealing with problems soberly / Surfing exercises on desires / Riding on the wave of desires / The role of fear and hope, being reactive and still / Doing body checking exercises / Doing yoga exercises / Five-minute practice "see or hear" / Retraining conscious session with awareness of breathing and body/ Distribution of participants in the fourth session and CD meditations
Fifth Session	Breathing exercises/ Retraining conscious session (awareness of breathing, body, sounds, thoughts) / Explanations about stress and identifying participants' reactions to stress/ Studying awareness of pleasant and unpleasant events on feelings, thoughts and physical sensations / Sober yoga exercises / three-minute breathing space exercise/handouts
Sixth Session	Doing sober yoga / Doing sitting meditation (mindfulness of voices and thoughts) / Distribution of 6 session leaflets and bar 4 between participants / Meditations on silence and speech / Benefits of silence/kindness.
Seventh session	Mountain meditation / Sleep hygiene / repetition of the exercises of the previous sessions / Preparing a list of enjoyable activities / Distributing the pamphlets of the seventh session / self-

	care / Warnings and suggestions for having a healthy life / Nurturing and contemplating about spirituality / What makes me full and what makes me empty / Unselected awareness
Eighth session	End of consciousness / Abandonment and rest of life / Tips for practicing awareness attention / Tips for formal exercises / Tips for daily continuity of attention awareness/body checking practice / Review of the whole treatment / Check and discussion about treatment / doing stone meditation, vertebrae and marbles.

Mindfulness-based relapse prevention (MBRP) is based on the behavioral intervention of mindfulness (Lyons et al., 2019; Holas et al., 2021); that combines marlatt Cognitive-Behavioral Program for preventing the relapse (marlatt & Gordon, 1985) with mindfulness training using a similar structure to MBCT.

8.3.4. Statistical Analyses

Thirty participants were randomized to two conditions (intervention and control) and were assessed at pretest, posttest and follow-up assessments (2 months after the end of the intervention). To compare the results of two intervention and control groups, repeated measures single-variable covariance analysis with pretest as the covariate was performed to compare the changes created in the performance indicators and clinical symptoms of both groups pre and post, as well as follow-up.

8.4. Results

8.4.1. Basic Statistics

First, mean score and standard deviation of MAP, HDRS and ISAS in each group was calculated (Table 8-2, 8-3, 8-4).

Table 8-2: Mean and standard deviation of pre-test and post-test scores of the MAP in each group

	intervention group			control group		
	Pre-test	Post-test	Follow up	Pre-test	Post-test	Follow up
variable	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
MAP	38.73 (5.03)	22.60 (4.82)	30.07 (4.93)	38.67 (6.29)	36.87 (7.34)	38.40 (4.62)

Table 8-3: Mean and standard deviation of pre-test and post-test scores of the ISAS in each group

	intervention group			control group		
	Pre-test	Post-test	Follow up	Pre-test	Post-test	Follow up
variable	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
ISAS	36.87	25.27	27.53	37.53	35.07	34.80
	(3.18)	(4.89)	(4.22)	(5.27)	(2.73)	(2.54)

Table 8-4: Mean and standard deviation of pre-test and post-test scores of the HDRS in each group

	intervention group			control group		
	Pre-test	Post-test	Follow up	Pre-test	Post-test	Follow up
variable	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)	M(SD)
HDRS	43.73	25.93	29.40	42.33	41.93	40.80
	(6.25)	(7.17)	(5.26)	(3.94)	(5.43)	(8.31)

8.4.2. Analysis of Intervention Effectiveness

(1) MAP score

A repeated analysis of single-variable covariance was performed with HDRS scores as the dependent variable and pretest as the covariate (Table8-5). The result showed that there was a significant difference between the intervention and control groups in the post-test ($F = 39.51, p < .001$) and follow-up ($F = 22.53, p < .001$).

Table 8-5: Single-variable analysis of covariance results for the study of MAP

Change resources		Sum of squares	Degrees of freedom	Average squares	F-value Sig	Effect size
	Training effect	1529.32	1	1529.32	39.51 **	0.59
Posttest	Error	1045.05	27	38.70		
	Sum	29130	30			
	Training effect	521.88	1	521.88	22.53 **	0.45
Follow up	Error	625.42	27	23.16		
	Sum	36319	30			

** $p < .01$

Regarding the mean values of MAP (Table8-2) for the intervention group in the pre-test (38.73), post-test (22.60) and follow-up (30.07), it is observed that the education of mindfulness-based relapse prevention of addiction to methamphetamine-dependent individuals has been effective. It is worth noting that these coefficients are significant at the level of 0.001 and the effect size indicates that the mindfulness-based relapse prevention has been effective in the post-test phase was 0.59 and in the follow-up phase of 0.45.

(2) ISAS score

A repeated analysis of single-variable covariance was performed with ISAS scores as the dependent variable and pretest as the covariate (Table 8-6). The results showed that there was a significant difference between the intervention and control groups in the post-test ($F = 43.81, p < .001$) and follow-up ($F = 33.89, p < .001$).

Table 8-6: Single-variable analysis of covariance results for ISAS

Change resources		Sum of squares	Degrees of freedom	Average squares	F-value Sig	Effect size
	Training effect	707.58	1	707.58	43.81**	0.61
Posttest	Error	436.05	27	16.15		
	Sum	28461	30			
	Training effect	373.35	1	373.35	33.89 **	0.55
Follow up	Error	297.42	27	11.01		
	Sum	29877	30			

** $p < .01$

Regarding the mean values of self-injury behaviors for the intervention group in the pre-test (36.87), post-test (25.27) and follow-up (27.53), it is observed that the education on mindfulness-based relapse prevention has been effective in reducing scores of the ISAS in methamphetamine-dependent individuals. It is worth noting that these coefficients are significant at the level of 0.001 and the effect size indicates that mindfulness-based relapse prevention has been effective in the post-test phase at 0.61 and the follow-up phase at 0.55.

(3) HDRS score

A repeated analysis of single variable covariance was performed with HDRS scores as the dependent variable and pretest as the covariate (Table 8-7). The results showed that there was a significant difference between the intervention and control groups in the post-test ($F = 46.38, p < .001$) and follow-up ($F = 22.87, p < .001$).

Table 8-7: Single-variable analysis of covariance results for HDRS

Change resources		Sum of squares	Degrees of freedom	Average squares	F-value Sig	Effect size
	Training effect	1926.30	1	1926.30	46.38 **	0.63
Posttest	Error	1121.28	27	41.52		
	Sum	37598	30			
	Training effect	789.31	1	789.31	22.87 **	0.45
Follow up	Error	931.78	27	34.51		
	Sum	39291	30			

** $p < .01$

Regarding the mean values of depression for the intervention group in the pre-test (43.73), post-test (25.93) and follow-up (29.40), it is observed that the education of mindfulness-based relapse prevention has been effective in reducing score of HDRS in methamphetamine-dependent individuals. It is worth noting that these coefficients are significant at the level of 0.001 and the effect size indicates that mindfulness-based relapse prevention has been effective in the post-test phase 0.63 of and in the follow-up phase of 0.45.

8.5. Discussion

8.5.1. The Effect of MBRP on Addiction Symptoms

The purpose of this study was to examine the effect of mindfulness-based relapse prevention on addiction symptoms of methamphetamine addicts, and we built up the hypotheses “Methamphetamine addicts who participate in MBRP treatment decrease substance use, self-injury behaviors and depression”.

We conducted MBRP program toward methamphetamine addicts and compared the scores of addiction symptoms of them (intervene group) with the ones of the addicts who didn't participate in the program (control group).

Results of analysis showed that in both of post-test phase and follow-up phase, tendency of substance use, self-injury and depression of intervention group were lower than control group, after excluding the influence of difference in the groups in pre-test phase. The result reveal that MBRP treatment is useful to improve the behavioral and emotional symptoms of methamphetamine addicts. It supports the hypothesis of this study, and congruent with the results of other studies (Pirnia et al., 2017; Fazilat Poor et al., 2017; Salimi et al., 2016; Himilstin et al., 2015; Grow et al., 2015; Russel et al., 2015; Chesta et al., 2014; Garland et al., 2012; Zemestani et al., 2016; Teimouri et al., 2015; Himilistin et al., 2015; Davis et al., 2019).

To explain this finding, it can be argued that mindfulness exercises have been designed to help the addicts to raise awareness and change challenging situations, including negative emotional states and situations without automatic and habitual reactions. Mindfulness-based exercises provide the possibility of alternative adaptive responses to their discomfort situation and mental condition and subsequently control and reduce them.

In mindfulness, individuals consider experiences as separate elements of themselves and as a transient state of mind and a subject for change, therefore instead of exploring the subject or avoiding its cognitive or behavioral experience, which both will be painful, they will accept and finally internalize these experiences like other experiences that are neutral or do not have any emotional burden (Marlatt et al., 2008).

Mindfulness exercises seek to increase acceptance and different awareness through a special focus on physical and emotional distress and teach clients to view emotional, physical and cognitive states of addiction symptoms without judging and automatic reflecting (Bowen & et al., 2014). Through relaxation and mindfulness exercises, talks and discussion, clienteles observe sensational and emotional states, with a non-judgmental approach and they are taught instead of immediately trying to escape the components of cognitive, emotional and physical experiences, to examine these components and ask questions.

Over time, continuous engagement in negative experiences (for example, depressive states) in the absence of habitual responses (for example, addiction symptoms) will undermine addictive responses toward emotional disturbances (Salimi et al., 2016). But mindfulness practices provide cognitive reconstruction of the clients and attention to emotional and cognitive states of the problematic issues.

It can be argued that mindfulness-based relapse prevention exercises may target common mechanisms of substance abuse and depression, and thus provide useful treatment for these incidental disorders. The exercises of this intervention may help those who receive the dual diagnosis of such disorders to tolerate unsatisfactory and negative emotional withdrawal and reduce avoidance and degrade maladaptive behaviors such as rumination (Brewer et al., 2010).

The mindfulness-based relapse prevention therapy training by providing variables such as increasing relaxation and internal awareness through mindfulness techniques, reducing the negative emotions associated with experiencing self-injury thoughts, increasing tolerance of distress, and training to identify replacement of ineffective Self-injury thoughts and increasing awareness of people here and now help the clients to go beyond self-injury patterns (Lee et al., 2011).

8.5. Conclusion

The present study examine the effect of MBRP treatment on reducing the tendency of substance use, self-injury behaviors and depression of methamphetamine addicts, and showed that mindfulness intervention used of MBRP is useful for improvement of the behavioral and emotional symptoms of drug addicts.

There are few studies that use randomized sample and examine the effect of interventions. Therefore, this study provided the valuable informations and broader perspectives toward the field of psychological intervention for drug addiction.

The recruitment of a sufficient number of patients will be a challenge and the mindfulness intervention requires participants to commit to attending eight two-hour group sessions and to practice exercises at home for five days per week. For people who have mental disease like self-injury thought and depression, it is difficult to comply with the suggestion and continue to practice the exercises without dropping out.

8.6. Limitations

The present study has some limitations. The limitations of the research refer to the research sample that is specific to Iran. In addition, it couldn't examine influences of severity and duration of addiction in participants, and strength of motivation or amount of effort which participants hold in the program period.

Therefore, further study which examine these issues should be done in order to understand the effects of MBRP program, and effect on other psychological symptoms of drug addiction.

In addition, it is also desirable to implement it for various drug and stimulant addictions.

In addition, this study of drug-dependent subjects was extremely difficult due to the ups and downs of the subjects' motivation.

8.7. Practical Suggestions

The result of this study indicates that MBRP is useful method for the improvement of the symptoms of drug addicts, so that the course based on mindfulness should be held to people

which are suffering from drug addiction. The practices would contribute in increasing the empowerment of people suffering from various addictive problems.

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Chapter 9 : General Discussion and Conclusion

Drug addiction is severe personal and social problem, which causes physical and psychological damage to the people with drug addiction, destroys their relationship with family or others and make their life difficult.

Drug addiction is defined as a state of chronic intoxication that is disrupted by repeated use of drugs and stimulants, contains an intense and uncontrollable desire to obtain and use substances at any cost, and induces their random use. But people are not automatically or equally vulnerable to drug addiction. Some people have lower level of self-control against drug use.

The drug addiction is considered to be caused by social factors, for example lack of employment and income, maltreatment by parents and relations with addicted friends. It is also caused by psychological factors, for example maladaptive personality and mental disease. On the other hands, some personal characteristics like tendency of mindfulness is considered to prevent drug addiction.

This research aimed to examine influences of parenting style and personal characteristics on the tendency to drug addiction, and the effect of mindfulness intervention on reduction of addiction symptoms.

The result of this research showed that two parenting styles, three personality traits, twelve maladaptive schemas, two attachment styles, resiliency and mindfulness have the influences on tendency to addiction. And the result of final study showed that mindfulness-based relapse prevention program reduced the symptoms of methamphetamine-dependent individuals.

(Chapter 5) Influences of parenting style on university students' tendency to drug addiction.

The first study aimed to examine the influences of three parenting styles to the tendency to addiction. For this purpose, university students of were selected as the sample and they responded to the questionnaire on their parents' parenting styles and their own tendency to addiction.

The result of multiple regression analysis showed that the two parenting styles (authoritative and authoritarian) significantly affect the tendency to addiction of students. There is a negative relationship between authoritative (rational authority) of father and mother on the tendency to addiction of male and female students, and authoritarian style of father has a positive relationship with the tendency to addiction of only female students.

These results indicated that in order to prevent children to get addict, father and mother should practice authoritative parenting for their children.

Next, we focused on relationship between personal characteristics and tendency of addiction.

(Chapter 6) Comparison with personality traits and early maladaptive schemas between the addicts and the non-addicts.

The second study aimed to examine the influences of personality traits and maladaptive schemas on addiction. Drug addicts and non-addicts were selected as sample and responded to the questionnaire on personality traits and early maladaptive schemas. Multiple analysis of variance was used to analyze the data.

The results showed that there are significant differences between the addicts and non-addicts on personality traits (extraversion-introversion and neuroticism, and psychoticism) and early maladaptive schemas (abandonment/instability, mistrust/abuse, emotional deprivation, dependence/incompetence, vulnerability to harm or illness, enmeshment/undeveloped self, failure, entitlement/grandiosity, insufficient self-control and self-discipline, subjugation, self-sacrifice, emotional inhibition). The extent of maladaptive personality traits (introversion, neuroticism, and psychoticism) and twelve early maladaptive schemas of the drug addicts were higher than the non-addicts.

Therefore, it can be concluded that people who addict to drugs have severe personality weaknesses and these psychological problems induce them to drug addiction.

The study examined relationship between maladaptive characteristics and addiction. Then we also examine the effect of adaptive characteristics on reduction of tendency to addiction.

(Chapter 7) Comparison of attachment styles, resilience and mindfulness between the students with high and low tendency to addiction.

This study aimed to examine the influences of attachment style, resilience and mindfulness on tendency to addiction of students. University students are selected as the sample and responded to the questionnaire on attachment style, resilience, mindfulness and tendency to addiction. Analysis of variance was used to analyze the data.

The results showed that there is a significant difference of attachment styles, resilience, and mindfulness between students with high and low tendency to addiction. The extent of avoidant and anxious ambivalent attachment styles of the students with high tendency to addiction were higher than those with low tendency to addiction, and the extent of resilience and mindfulness of students with high tendency to addiction were lower than those with low tendency. It indicates that maladaptive attachment styles induce the tendency to addiction.

On the other hands, resilience and mindfulness, these are adaptive traits, could prevent drug addiction.

The final study examines the effect of intervention based on mindfulness on drug addiction.

(Chapter 8) The effect of mindfulness-based relapse prevention on the symptoms of methamphetamine addicts.

The final study aimed that the effect of mindfulness-based relapse prevention on reduction of the symptom of methamphetamine addicts. The study was applied the form of quasi-experimental designs. Men and women dependent on methamphetamine were randomly assigned to the intervene group and the control group. The intervene group participated in MBRP program and both of group responded to the questionnaire on substance use, self-injury behavior and depression in three period (pretest, post-test and follow-up). Analysis of covariance is used to analyze the data.

The results showed that extent of substance use, self-injury behaviors and depression of intervene group are lower than control group in the time of pre-test and follow-up. Thus, mindfulness-based relapse prevention treatment could be effective on reduction of addiction symptoms of methamphetamine-dependent individuals. Because severe mental condition such as self-injury thought, or depression may cause substance use and its relapse.

Mindfulness-based relapse prevention exercises are designed to teach participants the alternative ways to respond to their negative thought and unpleasant emotion, and may help them to change their response to appropriate manner without addiction. MBRP exercises provide inner awareness of the here and now, and acceptance to their experience, and increase relaxation and tolerance to anxiety through mindfulness techniques such as focusing on physical and emotional distress and observing the emotional, physical, and cognitive states of addiction without judgment or involuntary reaction.

The results of the research could identify the factors that lead to the tendency of people to drug addiction, such as parenting style and personal characteristics like maladaptive personality, schema and attachment style. And they revealed that the resiliency and mindfulness can prevent drug addiction, and mindfulness-based intervention program is useful for reducing the addiction symptoms.

The findings of this research can be used in couple therapy and parenting classes before having children. It may prevent the occurrence of mental disorders before the birth of the child by understanding participants' own parenting style and learning the appropriate parenting manners. Early interventions toward Iranian parents, where they can learn about appropriate parenting are desirable.

In addition, the findings can be useful for adolescences to understand the psychological factors which affect to tendency to addiction, such as personality traits, maladaptive schemas and attachment styles, and it is expected that the workshops where they can learn about resilience, mindfulness, appropriate schemas and attachment style will be held.

The practice of mindfulness-based intervention and more research on its effect on various psychological problems should be done.

The main limitations of the research relate generalization of the results. The sample in the studies of chapter 5 and 7 are university students in Iran, they could have lower tendency to addiction than general adolescents in Iran. Besides, we examine the tendency of addiction in these students, therefore the tendency is not necessary to indicate the symptom of addiction itself. Moreover, the number of participants in the studies of chapter 8 are small.

Therefore, more research using samples with various attributes or larger samples should be conducted. In addition, the more research on the process that parenting style and personal characteristics inducing or reducing the tendency to addiction should be conducted by interview or longitudinal studies.