

Gambling Addiction (Compulsive Gambling)

The practice of gambling is almost as old as mankind itself and gambling addiction with it. Archaeologists have found evidence of gambling among the Babylonians as far back as 3000 B.C. Modern, commercial gambling is one of the biggest economic industries in Europe with estimated total revenue of 600 billion Euros. Its yearly growth is between 5-10%.

There are several different forms of gambling, including:

- Gambling tables in casinos, e.g. Black Jack, roulette
- Gambling machines, called slot machines
- Lotteries and betting, e.g. lottery scratch tickets, horse and dog races
- Internet gambling
- Illegal gambling e.g. illegal poker

In contrast to substance addiction, it is difficult to gather epidemiological data on gambling addiction. Not every gambler exhibits compulsive behavior. In the past few years, there have been several comprehensive studies done on impulse control disorder. According to an American study, the world wide prevalence of compulsive gambling is 0.6-0.8%. Epidemiological data for the USA suggests that 1.6-4.0% of the population are pathological or problematic gamblers. There are few studies of the European population that have researched the prevalence of gambling addiction and numbers are not available. Data for Austria is limited but it is estimated that 1.5% of the population are pathological gamblers and 3% are problematic gamblers. In Vienna, there are an estimated 28,000 compulsive gamblers and an additional 56,000 inhabitants are at risk.

Gambling addiction belongs to the non-substance based addictions, which also includes addictions to behaviors such as shopping, sex, work, Internet and eating. Addiction can develop when these behaviors become pathological. The term “addiction” should be used carefully, however, as this term describes a severe illness with defined symptoms. In the DSM-IV, pathological gambling is counted among the impulse control disorders (ICD). This group of disorders also includes kleptomania, pyromania and trichotillomania (the compulsion to pull out one’s own hair). Although they are grouped together, these disorders are quite different. Compulsive shopping, sexual behavior and Internet use may be added to this group in the near future.

The biological basis of the non-substance based addictions function in principle about the same way as the substance based addictions. The reward system in the central nervous system (the mesolimbic system) and the neurotransmitters dopamine, serotonin, noradrenalin, glutamate, and GABA play a central role. The dopamine system, which sends messages via the nucleus accumbens (a part of the brain), seems to be especially important in the development of addictions in which an increased amount of this neurotransmitter that is released. There is evidence that the amount of a potential win in gambling is proportional to the amount of dopamine released in the brain. One theory suggests that people with pathological or problematic gambling behavior feel the compulsion to gamble because their brains are trying to compensate for the decline in the amount of transmitters in this reward system and hence to avoid feelings of apathy. Noradrenalin influences positive stress and is jointly responsible for the establishment of habits. As a result, the plasma levels of noradrenalin are much higher in pathological gamblers than in non-gamblers. Serotonin also plays a central role in the impulse control disorders. People who suffer from gambling addiction and other substance-based addictions show lowered serotonin levels. This explains the effectiveness of selective serotonin reuptake inhibitors (SSRI) in these psychiatric disorders. The opioid system is in the same area of the brain as the dopamine system and it is probable that the two systems interact with each other.

As with other addictive behaviors, differences between men and women can be seen in gambling addiction. These differences are partly a result of female socialization and culture specific conditions play an important roll. Women in western society who have problems with gambling are often socially isolated than with men. The societal role of women to be a loyal mother and wife conflicts with gambling addiction. Risk factors for women include a problematic family history, inadequate, passive or lack of problem solving skills, dysfunctional, hostility toward one's self and emotional, physical, and sexual abuse. These women use gambling as an escape into another world from problems in their lives and relationships, loneliness and boredom. Some women use gambling as a way to increase their low self-esteem through success in a male dominated field. The financial wins seem to play a relatively small role for women at the beginning of the development of pathological behavior. This seems to be very gender specific for women. Women have lower life time prevalence for pathological and problematic gambling than men. However, the "telescope phenomenon" is more common among women, which is characterized by a low initial engagement and

higher beginning age but a shorter time from gambling begin to manifest addiction. For both sexes, crimes to obtain money, such as fraud and robbery, are common.

Therapy options for gambling addiction are presently being testing as there is not yet a standard therapy regime. Presently there is no medication approved to treat pathological gambling by the American Food and Drug Administration (FDA). Medication studies on these patients have showed a high placebo effect. Selective serotonin reuptake inhibitors (SSRI) have been tried with mixed results and hence can not be recommended in all situations. Naltrexon, an opioid antagonist which is used in other addictions to treat craving, has been tested on compulsive gamblers and was more effective than the placebo. But this was only seen at higher doses. For patients who also suffer from bipolar disorder, lithium has been shown to be effective for treating both problems. Because of the high placebo effect seen with most medications, psychotherapy is recommended as the first line of therapy. Behavioral therapy is presently being studied and seems to promise the best therapy option at this time.