

DERLEME | REVIEW

# Role of the Transtheoretical Model of Behavior Change in Quitting Smoking and Gambling Disorder Together

## Sigara ile Kumar Bağımlılığını Birlikte Bıraktırmada Transteoretik Davranış Değişim Modelinin Rolü

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### ABSTRACT

The reason why gambling increased and diversified for 3500 years is its characteristics of developing an addiction. Smoking, which is usually associated with gambling addiction, can be caused by the fact that smoking is used to give pleasure or keep away from stress. Transtheoretical model, which can be used in addiction treatments, can be effective in recovering from both gambling and cigarette addictions when used together to treat both addictions. The aim of this article was to emphasize that there may be the same coexistence in treatment approaches due to the relationship of addictions with each other.

**Keywords:** Gambling, smoking, addiction, transtheoretical model of behavior change

### ÖZ

Kumar oyunlarının 3500 yıl öncesinden bu yana artarak ve çeşitlenerek gelmesinin nedeni bağımlılık yapabilme özelliğidir. Kumar bağımlılığı ile birlikteliği sık görülen madde bağımlılıklarından sigara içimi kişinin stresten uzaklaşmak ya da zevk verici olarak kullanmasından kaynaklanabilmektedir. Bağımlılık tedavilerinde kullanılabilen davranış değişiklik modellerinden Transteoretik model, kumar ile sigara bağımlılığı birlikteliğinde kullanıldığında kişinin hem kumar hem de sigara bağımlılığından kurtulmasında etkili olabilmektedir. Bu makalenin amacı, bağımlılıkların birbiriyle olan ilişkisi nedeniyle tedavi yaklaşımlarında aynı birliktelik olabileceğini vurgulamaktır.

**Anahtar kelimeler:** Kumar, sigara, bağımlılık, transteoretik davranış değişim modeli

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## INTRODUCTION

People's interest in gambling has been evident and affected societies throughout history. The types of gambling games may change, but the interest in these games stay the same. These games affecting the entire society, particularly the family and being addictive, have existed in the past and are very likely to exist in the future (1). Gambling is described in the Criminal Code as "a game undertaking to earn money, where the profit and loss depend upon fortune and luck" while it is defined as the different distribution of the money or assets of all parties. Apart from earning money, many games are played to have a good time and fun. As it can be addictive, the damage to the family and the society is irreversible rather than the damage caused to the person himself/herself. Gambling is a form of addiction that can bring other addictions such as alcohol and smoking, as it may lead the person to be inclined to the psychological problems. Since it can cause psychological problems, the possibility of easily getting affected by other addictions increases (2).

Smoking frequently associated with a gambling addiction leads to psychological and physical addiction. As the prevalence increases, this situation may cause a vicious circle. Since it is possible to get rid of more than one addiction in the use of behavioral change models used in addiction treatments, it is necessary to keep in mind that prioritized or combined addiction approach will be used (3).

Since the effect of this bad habit, which shakes the society deeply and destroys the family, which is the foundation of the society, is not limited to the person, this pathological addiction should be considered as a public health problem. Treatment of this ailment is possible. Since the drug addiction treatment model is frequently used in the treatment of pathological gambling addiction, these people should be directed to the drug addiction treatment departments. It is possible to achieve success with a customized treatment program. For this reason, it is imperative that the addicted person first approve that gambling addiction is a pathological disorder (2,3). Dependency types can be related to each other, and this can cause a vicious circle. It was paid attention to bring together the studies conducted to make the treatment methods more effective in cases where addiction is more than one. The aim of this article was to emphasize that there may be the same coexistence in treatment approaches due to the relationship of addictions with each other.

## PATHOPHYSIOLOGY

When the pathophysiology of addictions is examined, a significant part of the reward system consists of the mesocorticolimbic system, where the principal neurotransmitter is dopamine. Dopamine release is activated by behaviors giving pleasure such as gambling, smoking, and shopping since these behaviors activate the reward path. Hence addiction is caused by the disorders between the mesocorticolimbic path and the associated connections (5,6). Coming et al. conducted a study to examine the potential role of the Dopamine D1 receptor gene in addiction behavior and they examined the alleles of Dde I polymorphism in three independent groups with different types of compulsive, addictive behaviors to test the hypothesis implying that the DRD1 gene may play a role in addictive behavior. There was a significant increase in the recurrence of homozygosity for DRD1 Dde I 1 or 2 alleles in subjects

with addictive behavior in all three groups, including Tourette's syndrome, smokers, and pathological gamblers (7).

Valença et al. found in their study that dopaminergic stimulation and previous exposure to smoking are independently associated with impulse control disorders in a dose-dependent manner. The behaviors of the patients with Parkinson's disease and the addiction behaviors were examined, it has been confirmed in studies that dopaminergic stimulation may lead to addictions such as gambling (8).

Drug treatment methods and therapy methods vary according to the pathophysiology of the addiction type. As addiction treatment methods do not only include drug treatment methods, our priority should always be psychiatric therapy methods. Behavioral change model treatments are the most frequently used. The presence of additional chronic disease or additional psychiatric disease makes the treatment mandatory to be personal. Priority should be determined according to the pathophysiology of the disease, but the characteristics of other diseases and possible drug interactions should not be forgotten (5-7).

## RELATIONSHIP BETWEEN GAMBLING AND SMOKING ADDICTION

Although gambling has many harmful results, an uncontrollable urge to keep gambling is called "gambling disorder." It is known that psychological diseases, particularly depression, can be observed in the person after gambling turns into an addiction (9). There are many definitions for gambling addiction, and the 5th Edition (DSM-5) of Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association includes the gambling under "Substance-Related and Addiction Disorders" section with "Non-substance related disorder" heading (10, 11).

Similar to the coexistence of gambling addiction and psychological diseases, alcohol and smoking are the most frequently used substances in combination with gambling addiction. These substances are commonly used because they are used to help people deal with stress, and they give pleasure. Since there are common characteristics of gambling addiction with substance addictions, they may be defined as single addiction syndrome. In addition to the standard features, there are differences in these addiction types; it is possible to observe a common recovery if both addictions are treated together. There is no significant progress on the pharmacological and behavioral therapies that need to be investigated and addressed. In behavioral addictions, it should not be forgotten that the treatment methods should be planned personally. Due to the potential of gambling addiction to be observed with other addictions, the burden on society can be significant not to be ignored (10).

## ROLE OF THE TRANSTHEORETICAL MODEL IN THERAPY

Studies are not sufficient for the categorization of behavioral addiction and substance-related addiction types. Due to the similarities between these two addictions, the treatment methods accepted may be suitable for both types of addiction. Addiction recovery consists of 3 steps. The first step includes the elimination and removal of withdrawal symptoms, particularly anxiety, and pharmacological treatment is commonly preferred. The second step is

motivational support to prevent relapse, and both pharmacological and behavioral change treatment methods are preferred collectively. The last step aims to prevent relapse in the long term. Particularly in this step, behavioral change models such as the transtheoretical model are used, and in the last step, regarded as the most critical step, it is considered as a suitable method not to return the addiction (4, 12).

CBT (Cognitive Behavioral Therapy), as the name suggests, is a treatment approach for treating the behavioral problems that are difficult to change. CBT is multifaceted, but its foundation includes approaches to change in emotions and opinions. In addition to psychotherapeutic approaches, there are also approaches that the person can help himself/herself. Using the transtheoretical model as a support in all treatment steps can be beneficial in the treatment of more than one addiction at the same time, based on the behavioral change. Since gambling and smoking addiction are in the same psychiatric class, the use of the transtheoretical model in treatment approaches allows two addictions to be treated together (4,10).

## **TRANSTHEORETICAL MODEL OF BEHAVIOR CHANGE (STAGES OF THE MODEL)**

Transtheoretical model, also known as the Stages of Change Model, created from theories derived from different psychotherapy theories, was developed in 1982 by psychologist James O. Prochaska and Carlo Diclemente (4,12,13). According to the Transtheoretical Model, there are 5 stages; 1- Precontemplation, 2 - Contemplation, 3 - Preparation, 4- Action, 5- Maintenance. It is necessary to direct the individuals according to their condition to be successful in treatment (Table 1) (4,15).

### **Stage 1: Precontemplation**

The person at this stage does not intend to change behavior within six months. The person often avoids getting information that will help change his behavior. Reactions from his environment create an obstacle to change. The morale of the people has deteriorated because they have not been successful even though they have tried to change several times. They have little or no self-confidence and are resistant to change.

### **Stage 2: Contemplation**

The person at this stage is aware that his behavior is problematic and wants to start healthy behavior within six months. He begins to explore the useful and harmful aspects of his behavior that he intends to change. They think of coping methods, but they cannot act. Due to the instability and contradictory feelings between the gains and losses of change, one can stay at this stage for many years.

### **Stage 3: Preparation**

At this stage, the person intends to act within the next month and has often attempted previously unsuccessfully. He begins to take small steps to change behavior. At this stage, the person expects support from their trusted friends and worries about failing when he changes behavior most.

### Stage 4: Action

The person at this stage changed the problematic behavior in the last six months and started to acquire new healthy behaviors. The action stage is a critical stage that requires efforts to prevent the return to the old behavior and reinforce the acquired behavior. It is necessary to teach the person how to deal with the difficulties he may encounter at this stage.

Step 5: Maintenance

The person at this stage changed the behavior at least six months ago. This phase extends from the first six months of change to an unlimited period. The person maintains a new healthy behavior for a while and tries to prevent relapse. The person is less affected by stimuli that promote problematic behavior, and their confidence in continuing change has increased. The risk of returning to behavior is low, but attention must still be paid to prevent relapse. The distinction and superiority of the transtheoretical model are related to the treatment of individuals according to the stages (4,14,15).

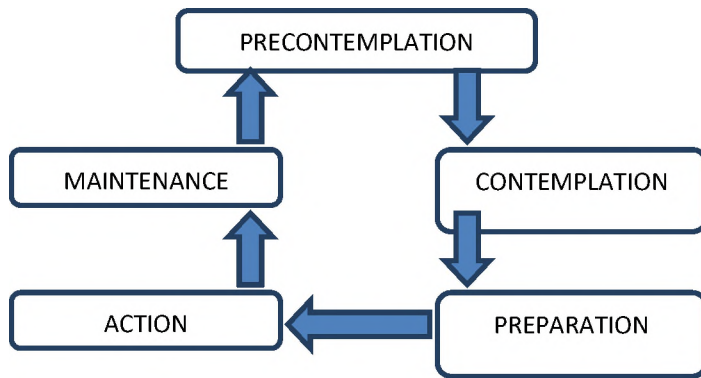


Figure 1. Stages of the transtheoretical model

### PROCESSES OF CHANGE

Behavior modification methods define the techniques that people use to change problem behaviors. Exchange methods are compatible with most exchange stages structures. Each of the behavior modification methods is related to the stages of change. The behavior change method includes five cognitive and five behavioral methods. While cognitive methods are used in the early stages of change, behavioral methods are used in the later stages of preparation, movement, and maintenance (4,15,18). Cognitive methods include awareness, sensory stimulation, self-evaluation, environmental re-evaluation, self-agreement. Behavioral Methods; Supportive relationships include contra conditioning - substitution, empowerment (rewarding), control of stimuli, social liberation.

Unlike the treatment protocols used in traditional treatment methods, the transtheoretical model is specific to the person. The stage of the person should be determined in the model, and it is necessary to work for moving to the next stage because there may also be a regression to the previous stage (16). Attempting to apply the same treatment protocols to whole people may cause the treatments to fail, and this is not something recommended (17). The transtheoretical model is renewed and continued to be developed with the help of the researches. In this model, it is recommended to use cognitive and behavioral techniques for

behavior change based on the stages of change (18,19). Motivational techniques are particularly significant for the preparation stage. The person goes through various stages until s/he gets rid of unwanted behavior (Table 1) (15,4).

### CONCLUSION

Due to the high comorbidity of these addiction types, the patients should be treated as soon as possible. The risk of developing additional addiction should also be examined. Addiction treatments will be beneficial for all addictions in the presence of possible additional addiction. When the pharmacological treatments are supported by psychological treatment models, the success rate in treatment increases. However, it should not be forgotten that therapy methods, which include successful behavior change models, can be sufficient in treatment alone without the need for drug treatment. Due to the high frequency of comorbid addictions in gambling addiction, the treatment approaches should be planned as soon as possible. The use of behavioral change models, particularly the transtheoretical model, will allow the person to get rid of addictions together, and hence prevent the harm that will be caused to himself/herself, his/her family and the society.

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