

Egyetemi doktori (PhD) értekezés tézisei

Examination of cognitive distortions and personality traits among gamblers

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Aim of the dissertation, definition of the issue

Different types of gambling games appeared after the change of regime at the beginning of the 90s in our country. The number of problem gamblers has been rising constantly in the last two decades but up to now only a few empirical studies were taken about pathological gambling in Hungary.

Pathological gambling is a multifactorial disorder in which addiction is made by the interaction of different factors. Personality variables, cognitive characteristics, different psychological states (anxiety, boring) and biochemical processes all contribute to the development and maintenance of this disorder.

One part of the gamblers became problem gamblers and are unable to give up gambling. For them fast and effective aid should be assured due to the chronic course of the disorder. Comprehensive knowledge about the disorder is needed to the effective aid.

Present dissertation deal with the role of the cognitive distortions and personality traits in the development and maintenance of pathological gambling. The aim of this dissertation to recommend an theoretical and methodological base for researches about pathological gambling in the next several years and report empirical research results about cognitive distortions and personality traits which can be useful during practical work.

First we briefly review the literature of pathological gambling which were used to create our hypotheses. In the second part we introduce our research which deal with two important research fields of pathological gambling: the role of the cognitive distortions and personality traits. Cognitive approaches put emphasis on the significance of irrational cognitive processes in the development and maintenance of this disorder. It would be necessary to discover this field more deeply and determine the role of the cognitive distortions in the development and maintenance of pathological gambling. The studies of personality traits are important from more aspects. Personality profile can help in the selection of vulnerable people for selective prevention programmes. The profile may direct our attention to those aspects of the personality which were not so relevant for therapy experts and which can be therapy modification point.

Research background

Issue of cognitive distortions

If cognitive distortions are present in the cognitive and executive processes the gambler will believe that he or she can control and predict the outcomes of turns. More types of cognitive distortions are known: gambler's fallacy (the more loss outcomes are the more probability of the winning is), selective memory (selective recalling of winning outcomes) or anthropomorphism (human characteristics are attributed to gambling games which may be responsible for winnings/losses). Previous researches identified the types of cognitive distortions and pointed out that distortions can influence the behavior during gambling sessions. They developed more methods to measure cognitive distortions: questionnaires, semi-structured interviews, and the thinking aloud method. According to the result 70-80% of gambler's thoughts are irrational. Authors of this issue agree that it is dangerous to let gamblers in the believe that they can control uncontrollable events. There are few empirical

researches about cognitive distortions and most of these studies just prove the presence of cognitive distortions. It would be important to determine the role of cognitive distortions in the pathogenesis of pathological gambling. This dissertation assumes four hypotheses about cognitive distortions.

Issue of personality traits

Research of personality traits in pathological gambling is important for prevention, diagnostic and therapy purposes. Most researches were conducted with sensation seeking and impulsivity but other dimensions were also in the focus of studies. Regarding the connection between personality traits and pathological gambling there is not consistent results. One cause of the inconsistent results can be that previous studies ignored important independent variables (for example preferred gambling game, degree of game experience) which would have been used in the interpretation of results. It can be imagined that different types of gamblers exist (based on the above mentioned independent variables) with different personality profiles. Several researchers tried to identify psychological types among gamblers earlier. Basis of the group rating were personality factors in the most times but none of these categorical systems proved useful in the clinical practice or science life. It is obvious that further researches need to be taken in this field and it would be worth to examine the personality of gamblers with recent methods. One of the newer methods may be Cloninger's Temperament and Character Inventory which summarizes the results of the modern biopsychological researches. The questionnaire endeavors a comprehensive description of the personality with the help of temperamental and character factors.

Hypotheses

Hypothesis 1.

As first hypothesis we assume that there is a positive relationship between the scores of Cognitive Distortions among Gamblers Questionnaire and the gambling severity measuring scores of Twenty Questions.

Hypothesis 2.

According to our hypothesis the Rationalism item is in negative relationship with cognitive distortions. The more agreement with Rationalism item occurs the fewer scores achieve the participants in questionnaire of cognitive distortions. The inverse relationship appears in case of total score of the Cognitive Distortions among Gamblers Questionnaire and single dimensions (cognitive distortions).

Hypothesis 3.

According to our third hypothesis there will be difference between different gambling games player regarding cognitive distortions. Gamblers preferring slot machines reach higher score in Cognitive Distortions among Gamblers Questionnaire than gamblers preferring other gambling games.

Hypothesis 4.

According to our hypothesis the more the game frequency is the more cognitive distortions appearance is.

Hypothesis 5.

According to our hypothesis we will find significant differences between personality traits based on preferred gambling games.

Hypothesis 6.

According to our sixth hypothesis gamblers will reach scores below average on the scales Self Directedness and Cooperativeness (immature character) and the percentage of immature character will be higher in our sample than in the normal population.

Hypothesis 7.

According to our seventh hypothesis gamblers who can diagnosed as pathological gamblers will reach more extrem scores on TCI personality factors than gamblers who can not diagnosed as pathological gamblers.

Hypothesis 8.

According to our eighth hypothesis gamblers reach scores above average on Novelty seeking and Impulsivity. Furthermore we assume that gamblers who reach higher score on Impulsivity subscale will chase luck more than gamblers who reach lower score on Impulsivity subscale.

Applied methods

We used Twenty Questions to determine the severity of gambling problems. Gamblers reaching more than six points were rated to „probably pathological gamblers” group. We applied Robert Cloninger’s Temperament and Character Inventory to measure personality traits. The questionnaire measures 4 temperament and 3 character dimensions with 240 items (Novelty seeking, Harm avoidance, Reward dependence, Persistence, Self directedness, Cooperativeness, Self transcendence). We made an own questionnaire to measure cognitive distortions (Cognitive Distortions among Gamblers Questionnaire) which evaluate gambler’s maladaptive cognitive errors along 5 dimensions (Illusion of control, Magnifications, Superstitious behavior, Flexible attributions, Erroneous interpretations of luck and probability).

Interpretation of our hypotheses we need such informations which could be obtained by made demographic questionnaire. With the help of this questionnaire beyond demographic dates we got such informations than game frequency or the type of the gambling pleasure ground. Dates of Demographic Questionnaire helped us to create hypotheses and interpret results.

Results

1. There is a moderate correlation between gambling severity and cognitive distortions. According to these result we can predict the presence of cognitive distortions only with high error percentage based on gambling severity. Our gambling severity method

(with other gambling severity methods) measure severity based on somatic or psychological symptoms or based on social consequences of gambling or maladaptive behavior. It seems that presence of cognitive distortions is partly independent from the mentioned factors. Therefore we can not wait the vanish of cognitive distortions from the vanish of symptoms (which is the main aim of the therapies expect cognitive therapy). According to the hypothesis we may conclude that it would not expect therapies (except cognitive therapies) that be able to make change in the system of cognitive distortions. So cognitive distortions can work after successful symptoms decreasing interventions.

2. According to the results there is only moderate negative correlation between scores of cognitive distortions scales and scores of Rationalism item. This means that rational thoughts about gambling games can presence beside irrational cognitive distortions. The consequence from this result that the organization of cognitive distortions and believes is not necessary logical within a person. Illogic can appear for example in the collateral existance of these believes that luck is controllable and luck is uncontrollable. During cognitive therapy rational beliefs appear due to cognitive reconstruction and it is not the signal of the absence of further irrational beliefs. So rational thoughts appeared during cognitive therapy are not reliable signs of the recovery process.
3. Slot machine players reached significantly higher score on the scale of Illusion of control than other gamblers. The result supports the hypothesis that structural characteristics of slot machines better facilitate the appearance of beliefs in controlling gambling than other gambling games. Slot machines use intermittant reinforcement schedule (reinforcements arrive on the base of variable reinforcement ratio) and the presence of buttons bring out the illusion of control in gamblers who belief that can influence the outcome of the game with appropriate timing, calculations and with the help of buttons. Pseudo skills appeared in this way are inadequate to control the result.
4. The more frequently the gambler played the more score he or she reached on the scales of Cognitive Distorsions among Gamblers Questionnare. According to many authors cognitive distortions come into existence along presuming illusoric correlations between independent events. Higher game frequency means more game experiance more experiance results more independent events during gambling and between them more illusoric correlations can be discovered. We found inverse relationship along the growing of game frequency regarding two dimensions (Magnification and Superstitious behavior). Maybe one part of gamblers experience frustration under their gambling carrier when their manipulations of controlling the game (superstitious behaviors) do not result what they want and number of the omnipotent beliefs (Magnifications) decreases.
5. There is no difference based on preferred gambling games regarding personality traits in the sample. But we found significant results considering structural and situational characteristics of the preferred gambling game (the base of the redefination was that maybe gamblers prefer not the given gambling game type but the determinative structural or situational characteristics of it). Gamblers playing with higher event frequency gambling games reached higher score on the scale of Novelty seeking. Players played with higher event frequency gambling games encounter more stimulus and is forced to make decisions faster and on more impulsive way. These conditions can be attractive people who are high novelty seekers according to Cloninger.

Furthermore according to the results players who reached higher scores on the scale of harm avoidance less likely visit social rewarding gambling places. Harm avoidance of players with high harm avoidance is not manifest in the avoidance of risky situations during gambling but the avoidance of social interactions.

6. Immature character (lower than average scores on the scales of Self directedness and Cooperativeness) appeared more significantly in the sample than in the normal population. Presence of immature character is an reliable sign of the possible diagnosis of personality disorders. According to the temperament cube in the group of immature characters B cluster's personality disorders are the more frequent (narcisctic, antisocial, borderline). Our results support comorbidity researches of pathological gambling and theories of psychoanalytic authors.
7. Probable pathologiactal gamblers are significatly differentiate from probable non-pathological gamblers based on character trait Self directedness. Beside lower Self directedness the diagnosis of pathological gambling is more likely. Enviromental factors can influence the value of Self directedness. With the development of Self directedness (single or group methods) we can expect positive changes. It is possible that Self directedness is constantly decreasing with the advance of gambling career maybe due to maladaptive behaviors caused by negative enviromental changes. Case examples about pathological gamblers confirm and demonstrate this process. On the other hand maybe higher or lower Self directedness was an characteristic of gamblers before the start of the gambling career and gamblers with lower value show more serious symptoms or social consequences (which were indicated by Twenty Questions). It would be useful for further researches to examine the role of Self directedness in the frame of an longitudinal study in detail on the aspect of pathological and non pathological gambling furthermore it would be worth to expand the model with other variables and examine their effect on the above mentioned relationship. Such variable could be for example the effect of the lenght of gambling career which is not sure to be in positive relationship with the gambling severity.
8. Gamblers were characterised by higher than average scores on the scale of novelty seeking. The aim of the novelty seeking behavior is that one to be in a more exited state. Novelty seekers do not care about their performance or which experiance will be see in the new situation, motivation of the novelty seeking will be to reach an other state. High sensation seeking partly explain the persistance of gamblers in the continuation of gambling in spite of cumulative losses. There is a positive relationship between scores on Impulsivity scale and chasing. Chasing can be manifest in two forms among gamblers. On the one hand a behavior inhibition should be appear during gambling due to punishment (loss) and the gambler should exit gambling for the effect of losses. On the other hand behavior inhibition may appear between gambling sessions when gamblers do not returt to the game because recent losses. According to our results impulsivity may be responsible for chasing in gamblers. The role of the impulsivity in chasing outlines the importance of cognitive behavior therapy in the treatment of gambling. It would be important to teach gamblers how inhibite their responses in gambling situations and it seems that cognitive behavior therapy is the best method to reach this goal.

The TCI profile of the studied sample is: higher than average Sensation seeking, lower than average Self directedness and cooperativeness.

Published or verified accepted publications

Körmendi, A., Kuritárné, Sz. I.: Pathological gambling: comprehensive study about actual researches. *Psychiatria Hungarica* 22, 5 (2007), 344-365.

Körmendi, A.: The importance and the possibilities of cognitive in the therapy of pathological gambling. *Psychiatria Hungarica* 24, 1 (2009), 60-67.

Körmendi, A., Kurucz, Gy.: Study of the „near miss” secondary reinforcement with non gamblers sample. *Pszichológia* 30, 4 (2010), 335-348.

Körmendi, A.: Structural and situational characteristics of gambling games. *Alkalmazott Pszichológia* 11, 3-4 (2010), 19-35.

Kurucz, Gy., Körmendi, A.: Can we perceive near miss?-an empirical study. *Journal of Gambling Studies* (2010) (accepted)

Körmendi, A.: Study of cognitive distortions among gamblers. *Pszichoterápia* (2010) (accepted)

Körmendi A.: Gambling addiction and Cloninger's psychobiological model. In: Balogh, L., Koncz, I., Mező, F. (eds.): *Pszichológiai Metszetek*. Budapest: Professzorok az Európai Magyarországiért Egyesület, 2010, 78-85.

Pataky, N., Körmendi, A.: Appearance of psychopathic tendencies among children and adolescents. *Psychiatria Hungarica* 25, 2 (2010), 154-163.

Pataky, N., Körmendi, A.: The relationship of the education style and callous/unemotional traits in children and adolescents. *Alkalmazott Pszichológia* 2011 (accepted).

Pataky N., Körmendi A.: Psychological mechanisms in psychopathy. In: Nagyová-Lehocká, Z. (eds.): *Collection of Psychological Studies*. Nitra: Constantine the Philosopher University in Nitra, 2010, 39-45.

Pataky N., Nagy E.V., Körmendi A.: Possibilities of the Méliusz Juhász Péter Library in the reading popularization and personality development of it. In: Balogh, L., Koncz, I., Mező, F. (eds.): *Pszichológiai Metszetek*. Budapest: Professzorok az Európai Magyarországiért Egyesület, 2010, 43-50.

Budavári, T.I., Juhászné, K.A., Jereb, K., Körmendi, A., Szalma, Zs., Váry, A.: *Theory and practice of the mentoractivity*. Gödöllő: Szent István Egyetem Gazdaság- és Társadalomtudományi Kar, 2009.

Pataky N., Körmendi A.: Psychological mechanisms in psychopathy. In: Nagyová-Lehocká, Z. (eds.): *Collection of Psychological Studies*. Nitra: Constantine the Philosopher University in Nitra, 2010, 39-45.